FINE ARTS DEPT. STACK

PUBLIC LIBRARY
MAR 24 1954
DETROIT

THE ARCHITECTS' JOURNAL



standard contents

every issue does not necessarily contain all these contents but they are the regular features which continually recur

NEWS and COMMENT
Diary
News
Astragal's Notes and Topics
Letters
Societies and Institutions
TECHNICAL SECTION
Information Sheets
Information Centre
Current Technique
Questions and Answers
Prices
The Industry
PHYSICAL PLANNING SUPPLEMENT
CURRENT BUILDINGS
HOUSING STATISTICS
Architectural Appointments Wanted and Vacant

No. 3080] [VOL. 119
THE ARCHITECTURAL PRESS
9, 11 and 13, Queen Anne's Gate Westminster, S.W.1. 'Phone: Whitehall 0611

Price 1s. 0d.
Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square, Sloane 1601/3158
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1. Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1. Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197/5176
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1. Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
IWA	Inland Waterways Association. 14, Great James' Street, W.C.2. Chancery 7718
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Gontran Goulden, Building Centre, 26, Store Street, W.C.1. Museum 5400
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1. Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James' Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C. Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94-98, Petty France, S.W.1. Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
NBR	National Buildings Record. 37, Onslow Gardens, S.W.7. Kensington 8161
NCBMP	National Council of Building Material Producers, 10, Princes St., S.W.1. Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1. Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NSA	National Sawmilling Association. 14, New Bridge Street, E.C.4. City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1. Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8. Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. Mansion House 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1984
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5096
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford. Oxford 47988

MILLS Floor Centres

IMMEDIATE DELIVERY

FOR SALE OR HIRE



STRONGER!

The only floor centres with high-tensile chrome molybdenum steel main members—no stiffeners!

SIMPLER!

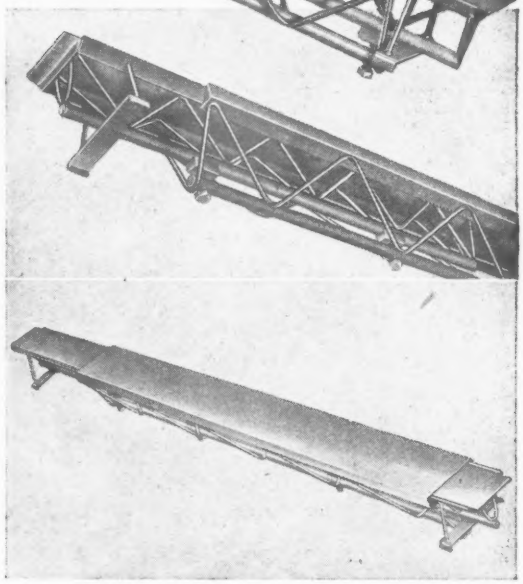
Lattice-work construction of side members gives greater ease of cleaning and maintenance!

FASTER!

Lighter in weight, easier to handle, quicker to position. Fewer sliding surfaces liable to damage.

SAFER!

Minimum deflection. Provision for support off beams, walls or props, etc.



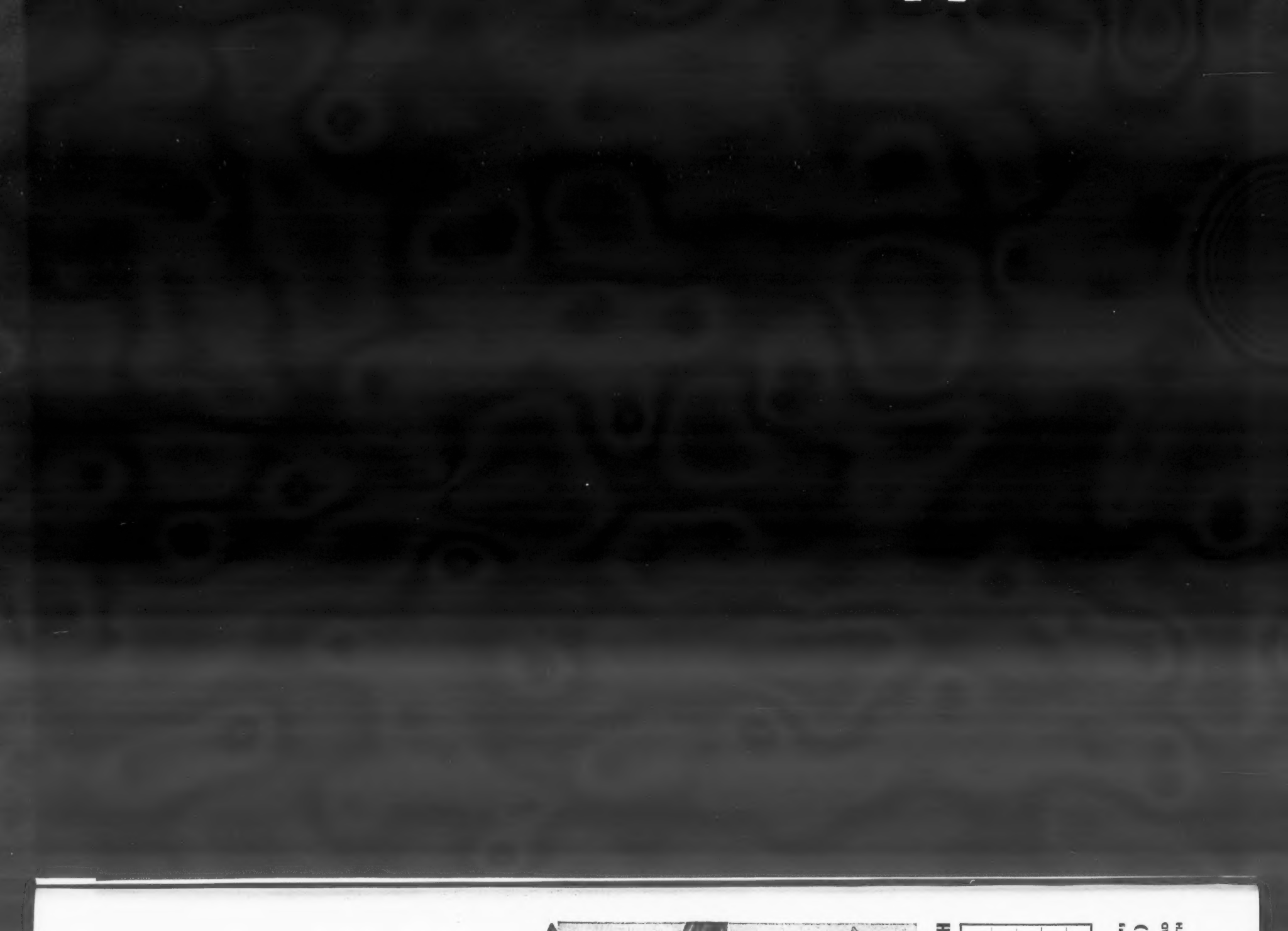
FOUR SIZES, ADJUSTABLE LENGTH

	LENGTH CLOSED	LENGTH EXTENDED	WEIGHT lbs.
A	4 ft.	6 ft.	52
B	6 ft.	8 ft.	76
C	8 ft.	11 ft.	104
D	10 ft.	15 ft.	131

FOR HOLLOW-TILE OR REINFORCED CONCRETE FLOORS. CAN BE ERECTED BY SEMI-SKILLED OPERATORS.

WRITE FOR ILLUSTRATED FOLDER WITH COMPLETE DETAILS TO MILLS SCAFFOLD CO. LTD., TRUSSLEY WORKS, HAMMERSMITH GROVE, LONDON, W.6. (RIVerside 5026/9)

BELFAST . BIRMINGHAM . BOURNEMOUTH . BRIGHTON . BRISTOL . CANTERBURY . CARDIFF . COVENTRY . CROYDON . DUBLIN . GLASGOW . HULL . ILFORD
LIVERPOOL . LOWESTOFT . MANCHESTER . NEWCASTLE . NORWICH . PLYMOUTH . PORTSMOUTH . READING . SHIPLEY . SOUTHAMPTON . SWANSEA . YARMOUTH



It's f
bette
equip
short

THE

A. C.
SICILIA

BIRMIN



Hit or Miss?

It's fatally easy to adopt a hit or miss attitude to Asphalte — and it can easily be fatal. How much better to call in the people who make the whole problem child's play, who have the experience, the equipment to save you time and money, and whose special facilities can be placed at your disposal in the shortest possible time. How much better, in fact, to **call in Val de Travers.**

THE VAL DE TRAVERS ASPHALTE PAVING COMPANY LIMITED · 21-22 OLD BAILEY, LONDON, E.C.4

Telephone: City 7001 (10 lines) · *Telegrams:* Traversable, Telex, London

ASSOCIATED COMPANIES

A. C. W. HOBMAN & CO. LTD. · TAROADS LTD. · THE DIAMOND TREAD CO. (1938) LTD. · THE LONDON ASPHALTE CO. LTD.
SICILIAN ROCK ASPHALTE CO. LTD. · UNITED LIMMER & VORWOHLE ROCK ASPHALTE CO. LTD. · W. G. WALKER (GLASGOW) LTD.

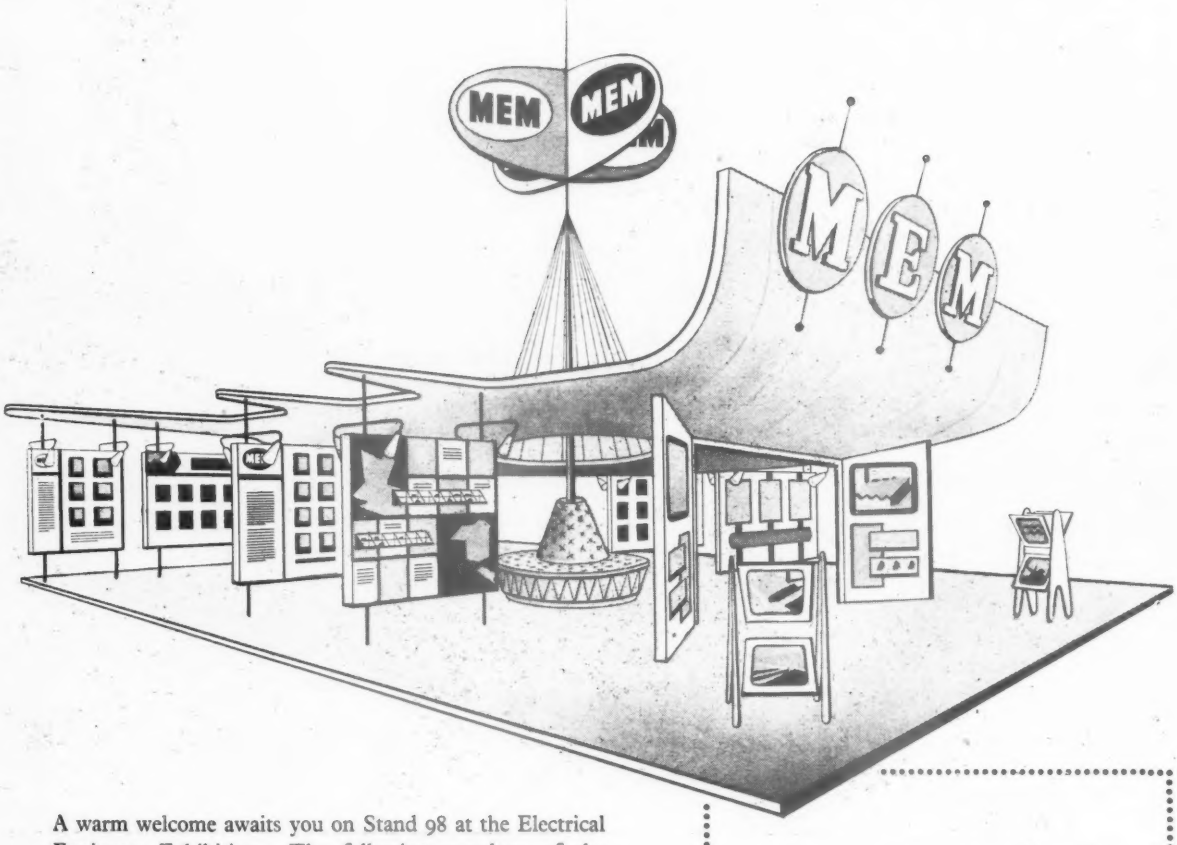
BRANCHES

BIRMINGHAM · CANTERBURY · EXETER · GLASGOW · LINCOLN · LIVERPOOL · MANCHESTER · NEWCASTLE-ON-TYNE

VT

SCP/596

See us at the show!



A warm welcome awaits you on Stand 98 at the Electrical Engineers Exhibition. The following members of the M E M organisation will be in attendance on the days shown and will be glad to show visitors the very complete display of M E M products.

Throughout the week	R. W. S. MACKAY, *Sales Director* W. LOAT, *Sales Supervisor* W. F. CARTWRIGHT, *Southern Counties Representative* J. W. CHAPPELL, A. DYSON, J. J. FALLON — *London & Home Counties Representatives*
Tuesday, 16th	J. A. OLDFIELD, *Export Market Supervisor* S. D. GUNN, *South Midlands Representative* F. E. KNIGHT, *North Midlands Representative*
Wednesday, 17th	J. A. OLDFIELD, *Export Market Supervisor* A. M. PERKS, *West of England & South Wales Representative* J. G. WRIGHT, *Northern England Representative*
Thursday, 18th	J. G. DAVIS, *Export Manager* A. D. K. BAKER, *Yorkshire & North Lincs. Representative* G. GROVE, *East Midlands Representative*
Friday, 19th	J. G. DAVIS, *Export Manager* L. R. PIPER, *Scottish Representative* J. W. WATERHOUSE, *Lancashire & North Wales Representative*
Saturday, 20th	A. AYRES, *Export Assistant*

MIDLAND ELECTRIC MANUFACTURING CO. LTD., Tyseley, Birmingham 11. *Branches in London and Manchester.*

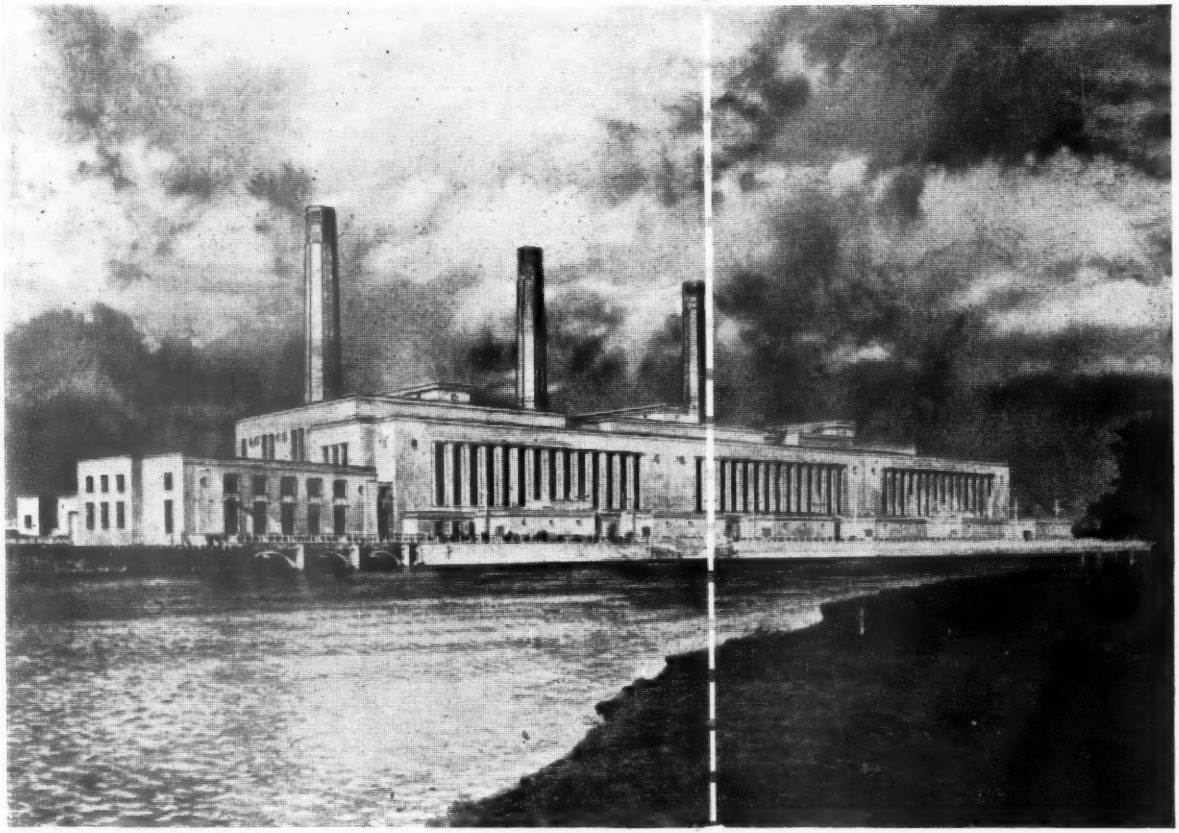
Visit MEM Stand 98

AT THE ELECTRICAL ENGINEERS EXHIBITION

EARLS COURT

MARCH 16-20

Stand telephone: FULham 4776



STAYTHORPE POWER STATION

By courtesy of The British Electricity Authority.

Consulting Engineers: *Messrs. Merz & McLellan.*

Architects: *Messrs. Cecil Howitt & Partners.*



FRANKI (Driven) Piles
FORUM (Bored) Piles
MIGA (Jacked) Piles
R. C. Foundations

FRANKIPILES

THE FRANKI COMPRESSED PILE COMPANY LIMITED
39 VICTORIA STREET LONDON S.W.1
Telephone : Abbey 6006-9 · Telegrams : Frankipile, Sowest London
And in AUSTRALASIA · B. W. INDIES · RHODESIA · S. AFRICA

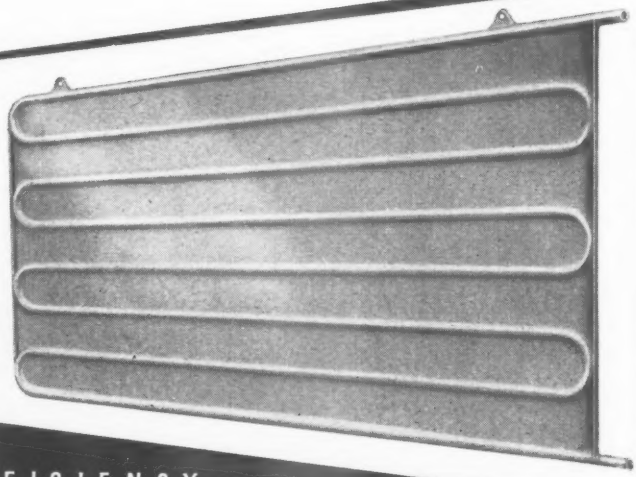
AND WE HOLD THE JOB UP

J.W

ALLENS of TIPTON *present*

FURTHER *advantages of*

HEATWAVE



HIGH EFFICIENCY

RADIANT·PANEL·HEATING



These further advantages of **"HEATWAVE"** Radiant Panel Heating give emphasis to its suitability for all industrial purposes. The many other good reasons for installing **"HEATWAVE"** Panels are outlined in the Technical Brochure illustrated below, and available on request.

- **The Panels are fully efficient in atmospheres containing dust, dirt or fumes, and they create minimum disturbances in such atmospheres**
- **They have no air passages to become clogged with dirt.**
- **They avoid the need for flameproof equipment in paint spraying or similar shops where highly inflammable atmospheres may occur, and also their heat distribution is unaffected by artificial ventilation systems.**



W. G. ALLEN & SONS (TIPTON) LTD.,

PRINCES END WORKS · TIPTON · STAFFS

I KNOW... EVO-LED PRIMER CUTS DAYS OFF BIG CONTRACTS



WITH **EVO-LED**

PRIME TODAY · PAINT TOMORROW
AND ENSURE LASTING PROTECTION

Evo-Led is a true Red Lead Primer with these advantages...

Speedy over-painting: permits over-painting after 12/24 hours. Furthermore EVO-LED is not affected in any way when over-painted after 24 hours even with finishing paints that contain searching solvents like chlorinated rubber and bituminous paints.

Damp surface application: can be applied with perfect adhesion to dew-moist surfaces.

Prevents rust corrosion: forms a perfect bond to all ferrous metals.

Eliminates bleed-through or lifting: provides a superb receptive surface for high quality paints.

EVO-LED is the most important advance in anti-corrosive paint technology, and completely supersedes ordinary red lead primers.

EVODE LTD. also manufacture EVODYNE Chlorinated rubber Paints for acid resistance, EVOLENE Enamel Paints—high gloss decorative paints—and the EVODE range of 505 Black pure bituminous paints and solutions.



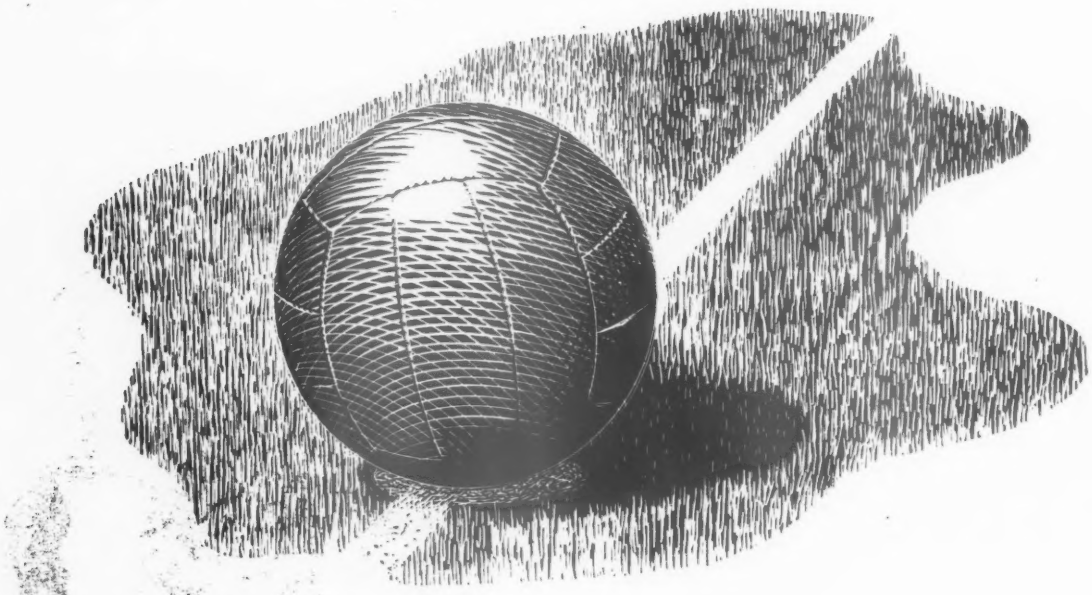
Storage Tanks at Petrochemicals Limited, Partington, Manchester, painted and protected with the EVODYNE Painting System consisting of :— One coat Evo-led Red Lead Primer; one coat Evodyne (Chlorinated Rubber) Paint, Aluminium; Two coats Evodyne (Chlorinated Rubber) Paint, Light Grey B.S. 631.

AN **EVODE** PRODUCT

Full details of EVODE paints will be forwarded upon application.

EVODE LTD · GLOVER ST · STAFFORD

Telephone: 1590/1/2 Telegrams: Evode, Stafford *LONDON OFFICE: 1 Victoria Street, London, S.W.1 Tel: Abbey 4622/3*



STEELWORK *for* SPORT

Amphitheatres of a bygone civilisation are with us yet, but the supporters of to-day's teams are in turn supported by Steel — in the case of Manchester United's ground with Steelwork by

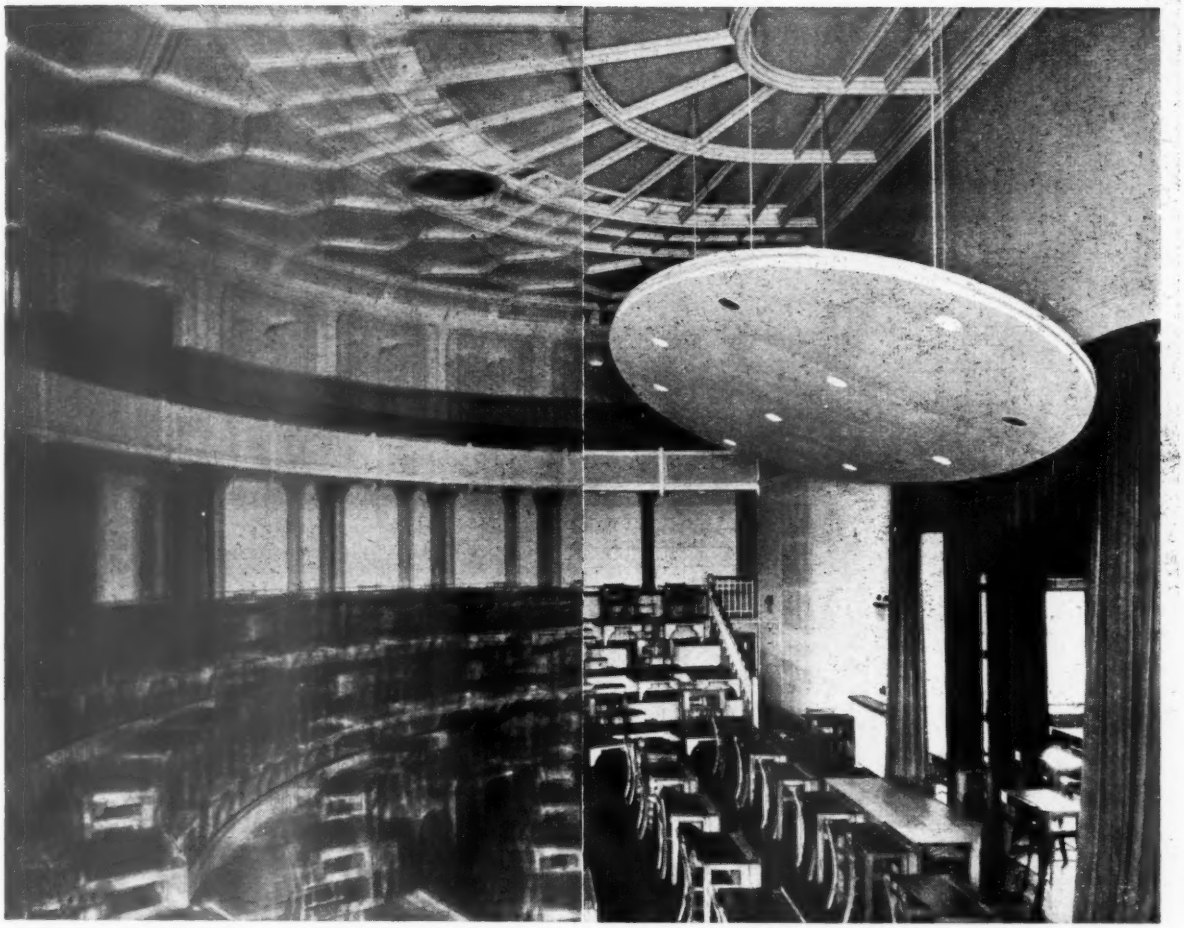


EDWARD WOOD & CO LTD

CONSTRUCTIONAL ENGINEERS

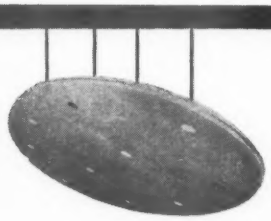
Registered Office & Works: **MANCHESTER 17**
Telephone: TRAfford Park 2341 (10 lines)
London Office: 68 Victoria Street, S.W.1 Tel.: Victoria 1331/2
Technical Offices: BIRMINGHAM and LOUGHBOROUGH

dm WD37



Architect and Acoustical Consultant: Edward R. F. Cole

what a difference good sound insulation can make!



Elliptical Sound Reflector

The Elliptical Sound Reflector was an unusual and interesting feature of this sound insulation job. It is suspended above the lecturer's platform and is designed to project the lecturer's words to all parts of the theatre.

IN THE ARTS THEATRE at the University of Liverpool, students can now hang on the lecturer's words. No strain, no misunderstandings since Newalls went to work. For here sprayed 'Limpet' Asbestos has been applied to the entire ceiling area, curved rear wall panels and balcony front. At promenade level, Newalls (Regd. Brand) Paxtiles* have been installed on the curved rear wall panels and from the ceiling is suspended a large elliptical sound reflector.

Acoustically correct, yet without detracting from the character of the building, this is an example of the service provided by Newalls, extending from the planning, through the manufacture of insulating materials and to their effective installation.

* Paxtiles are manufactured of asbestos fibre, faced with a layer of asbestos millboard and then perforated.

Where there's a SOUND INSULATION problem

***there's a job for* Newalls**

NEWALLS INSULATION CO. LTD. *Head Office*, Washington, Co. Durham. *A member of the* TURNER & NEWALL ORGANISATION

Offices and Depots at LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL & CARDIFF. *Agents and Vendors in most markets abroad*



POWERS SAMAS, LONDON
Michael Barnett, Esq., A.R.I.B.A., 329 *High Holborn, London, W.C.1.*

FRENGER

- **LONDON AIRPORT**
 Frederick Gibberd, F.R.I.B.A., M.T.P.I., *8 Percy Street, London, W.1.*
- **JAGUAR CARS LTD., COVENTRY** W. S. Hattrell & Partners, F/AA.R.I.B.A. (*Chartered Architects*), *1 Queen's Road, Coventry.*
- **A. REYROLLE & CO. LTD., HEBBURN-ON-TYNE** Cackett, Burns Dick & Mackellar, F/F/A.R.I.B.A. (*Chartered Architects*), *21 Ellison Place, Newcastle-on-Tyne.*
- **POWERS SAMAS, LONDON**
 Michael Barnett, Esq., A.R.I.B.A., *329 High Holborn, London, W.C.1.*
- **C. A. PARSONS LTD., NEWCASTLE**
 Parsons Research & Design Division.
- **ALUMINIUM LABORATORIES, BANBURY**
 Sir Percy Thomas & Son, PP/A.R.I.B.A. (*Architects*), *10 Cathedral Road, Cardiff.*
- **LEWIS'S LTD., LIVERPOOL** G. de C. Fraser, Son & Gearey, A/A.R.I.B.A. (*Chartered Architects*), *27 Dale Street, Liverpool.*
- **NATIONAL BANK OF AUSTRALASIA** Gordon & Gordon, F.R.I.B.A. (*Architects and Surveyors*), *Finsbury House, Blomfield Street, London, E.C.2.*
- **WILLERBY & CO. LTD., DERBY**
 C. J. Epril, F.R.I.B.A. and Associates, *55 Pall Mall, London, S.W.1.*
- **DE HAVILLAND AIRCRAFT CO.** James M. Monroe & Son, A.R.I.B.A. (*Chartered Architects*), *6 Spring Gardens, London, S.W.1.*
- **LONDON SESSIONS HOUSE** (*Architect to the Council*, J. L. Martin, M.A., PH.D., F.R.I.B.A.), with W. S. Durnford, F.R.I.B.A., *Senior Architect, General Division*, and R. J. Dickson, M.I.H.V.E., *Heating and Ventilating Engineer.*
- **ATLAS ASSURANCE CO. LTD.** Waterhouse & Ripley, PP/F.R.I.B.A., *Staple Inn Buildings, High Holborn, London, W.C.1.*
- **DUAL PURPOSE BUILDINGS**
 Northern Ireland Hospitals Authority.
- **A. C. WICKMAN LTD., COVENTRY** W. S. Hattrell & Partners, F/AA.R.I.B.A. (*Chartered Architects*), *1 Queen's Road, Coventry.*
- **ARMAGH GIRLS' HIGH SCHOOL**
- **ST. BEES SCHOOL, CUMBERLAND**
 Johnston & Wright, L./A./A.R.I.B.A. (*Chartered Architects*), *13 Castle St. Carlisle*
- **BRITISH ALUMINIUM CO. LTD.** (Research Laboratories, Chalfont Park) Architectural Dept., *Norfolk House, St. James's Square, London, S.W.1.*
- **JOHN LAING & SON, CARLISLE**
 Sydney Greenwood, A.R.I.B.A. (*Architect*), *Bunns Lane, London, N.W.7.*
- **PATHOLOGICAL LABORATORY, BOLTON**
 Frank Bradley, A.R.I.B.A. (*Chartered Architect*), *4 Wood Street, Bolton.*

THE BUILDING CENTRE
USE THE CENTRE
26 STORE STREET·W C1

FRENGER CEILINGS LTD 67 GREAT RUSSELL STREET, W.C.1. Chancery 5534

DOMESTIC ELECTRIC WATER HEATING

SELF-CONTAINED ELECTRIC WATER HEATERS (2) used in Conjunction with Solid Fuel Systems.

Where a solid-fuel appliance is installed for water heating, the use of electricity for supplementary or alternative use has proved most successful and economical, both in systems that have been in operation for many years and those that are designed to utilise both sources of heat energy. In all combined systems, however, certain facts of primary importance must be borne in mind.

When electricity only is used (see W.H.1) the consumption of current is determined by the quantity of water heated and its temperature: in the case of solid fuel, this is not so. There is in fact a considerable surplus generation of heat by all but the most efficient boilers due to the margin required to cover variations in fuel, stoking, flue draught, etc. In winter this heat is naturally appreciated for its space-warming value and the "waste" heat is not recognised as such, but at other times this heat is unwanted—it is waste in the true sense of the word.

A combined system must be primarily designed to operate efficiently when the electric heater is in operation: in consequence the system efficiency will be higher than usual when running on solid fuel, due to the reduced heat losses characteristic of the electric method.

There must be no circulation of electrically heated water through any part of the system: any circulating loops to towel rails, radiators, etc., must not operate when the electric heater is in use.

The Function of the Heat-Leak

In the simplest form of satisfactory combined system, a factory-made self-contained pressure-type water heater (see W.H.1) is used as the hot storage vessel in the solid-fuel boiler circuit as shown in Fig. 1, in which the economy of pipework and installation generally is apparent. The efficient insulation of this form of hot storage vessel is in marked contrast to that of the average solid fuel system in which the bare or lightly insulated tank dissipates a good deal of heat and so reduces the risk of the water boiling when the fire is burning fiercely and no hot water has been drawn off for some time. In the combined system this outlet for excess heat is not available, so a radiator or towel rail on a separate circuit taken from the flow pipe immediately above the boiler may be installed as a "heat-leak" (see Fig. 1). This is generally essential for most types of independent as distinct from back boilers and, incidentally, provides a useful additional amenity in small installations. (See W.H.4).

The Position of the Hot Storage Vessel

In solid fuel installations the circulation from boiler to hot storage vessel is improved by siting them in close proximity to each other but when an electric self-contained heater is to be used, this is of less importance than the length of the draw-off pipes which should be reduced to the minimum, especially that to the sink tap which is used at least a dozen times more often than any other. See Tables 1 and 2 for heat losses from pipework. In the case of a small boiler or back boiler the flow pipe can be lagged if desired and the return left uncovered, elongated or provided with a small coil as a heat-leak, which will help to warm the kitchen, hall, linen or drying cupboard.

Dual-element pressure type heaters are particularly suitable for this purpose: they are obtainable in sizes from

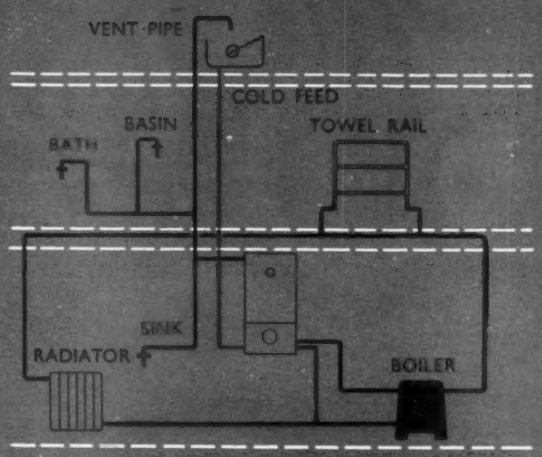


Fig. 1 In conjunction with solid fuel boiler towel rail and radiator

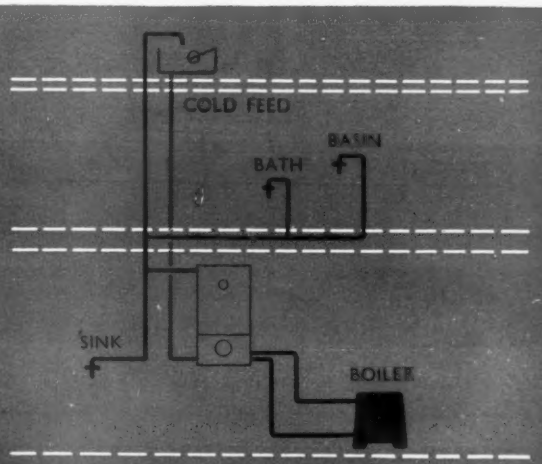


Fig. 2 In conjunction with solid fuel boiler

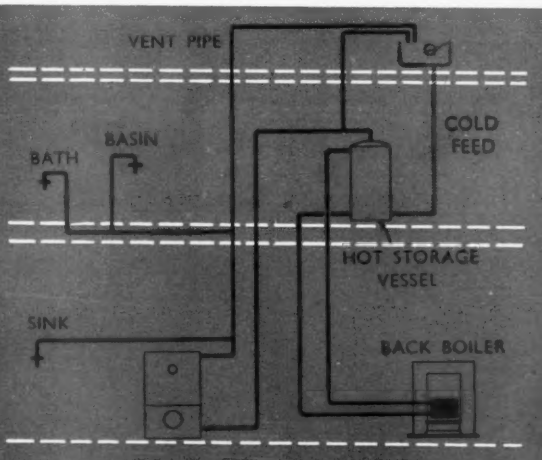


Fig. 3 Incorporated in an existing solid fuel system

W H.2

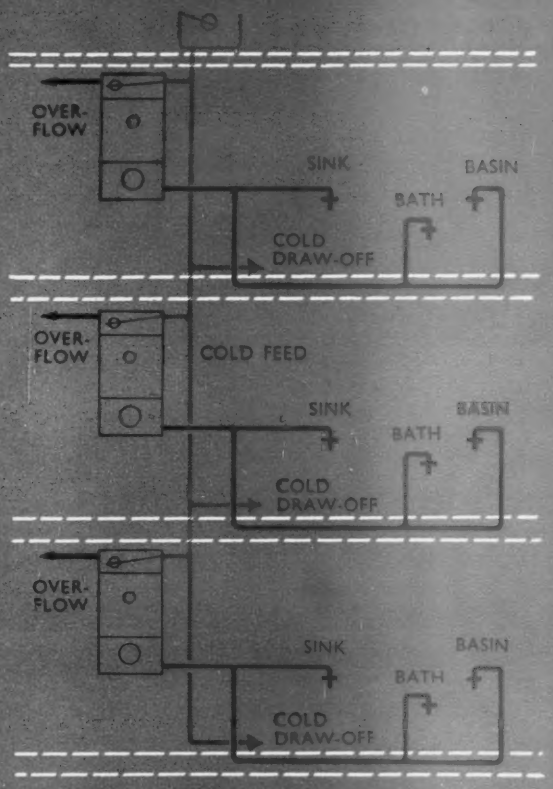


Fig. 4 Cistern type self-contained Electric Water Heaters in Flats

TABLE 1 HEAT LOSS FROM CIRCULATING PIPING

Temperature	Units of electricity per ft. run per week Galvanised iron			Light gauge copper		
°F.	½"	¾"	1"	½"	¾"	1"
120	1.05	1.26	1.51	0.97	1.38	1.62
140	1.50	1.80	2.15	1.36	1.84	2.33
160	1.98	2.38	2.84	1.76	2.43	3.06
180	2.49	2.99	3.56	2.28	3.05	3.86

Loss of heat due to radiation and convection per foot run of horizontal pipe kept hot continuously. It is assumed that the air is at 60° F. and that the pipes are bare, not painted or polished, or in contact with a wall.

TABLE 2 HEAT LOSS FROM DRAW-OFF PIPES

Temperature	Units of electricity per ft. run per week Galvanised iron			Light gauge copper		
°F.	½"	¾"	1"	½"	¾"	1"
120	0.28	0.44	0.71	0.14	0.28	0.50
140	0.37	0.59	0.94	0.19	0.38	0.67
160	0.46	0.74	1.18	0.24	0.47	0.84
180	0.56	0.89	1.42	0.29	0.57	1.02

Loss of heat due to the pipe and its water content cooling down to 60° F. after each draw-off. It is assumed that the pipe is used 10 times per day, is bare, not painted or polished, or in contact with a wall.

12 to 40 gallons capacity (see Table 5, W.H.1) fitted with correctly placed connections for flow and return pipes, cold feed, and hot water draw-off. When the solid fuel boiler is not in operation, they operate as an all-electric system (see W.H.1). The top heating element can, however, be usefully left on during the winter, especially if the system is likely to be left unattended for any length of time, so that 6 or 7 gallons of hot water are always available even if the boiler is running slow or has gone out, electricity being automatically switched off when the boiler recovers and the water reaches the desired temperature.

Incorporating a Self-Contained Water Heater in an Existing Solid Fuel System

It is sometimes considered necessary to improve the performance of an old solid fuel system without extensive alterations or replacements. This can be done with success by installing a pressure-type water heater in series with the existing hot storage vessel as shown in Fig. 3. In principle, the hot storage vessel then acts as a feed water heater to the electric self-contained appliance, but the degree of pre-heating obtained in practice depends on the layout of the pipework and the efficiency of the particular installation.

THE SELF-CONTAINED CISTERN TYPE ELECTRIC WATER HEATER

This type of water heater is factory made with an integral cold feed cistern controlled by a ball valve above the hot storage vessel from which it is efficiently insulated. It is thus a complete water heating installation in itself, and only needs connection to the cold feed, hot draw-off pipe, overflow and electric service. Rectangular and circular models are made for wall fixing in capacities from 5 to 30 gallons.

Cistern Type Water Heaters in Flats

Both in new multi-storey blocks of flats and in conversion of old houses, the self-contained cistern type of electric heater has many advantages. In new constructions, no chimney breasts, fireplaces, hearths and flues are required: the brickwork and foundations saved in a block of four or more storeys together with the reduction in fuel storage space, represents a major economy in construction. Bathroom and kitchen planning is no longer restricted by the necessity for keeping them in close proximity to a chimney stack as required when hot water is supplied from back-boilers or similar solid fuel appliances. No coal or coke has to be carried upstairs for the hot water service, and no clinker and ashes carried down and removed. Similarly in conversion work the same advantages are apparent, especially where the existing stacks and fireplaces are awkwardly placed for replanning and there is difficulty in finding adequate space for fuel storage for each flat. Installation is extremely simple—one cold water service pipe from the usual cold feed cistern (or the main where permitted) is all that is required to service every water heater and cold water tap in each flat. Connections to the draw-off pipes, overflows and electric supply and the fixing of the water heater on its brackets, complete the work. See Fig. 4. Cistern type heaters must of course be fixed above the highest draw-off point to be served: they can be used most economically in houses where the water supply regulations permit of such appliances being coupled direct to the main.

For further details apply to

W H.2 British Electrical Development Association

2 Savoy Hill, London, W.C.2. Temple Bar 9434.

Get overcrowding under control with ASCOS SCHOOLS and Classrooms

Hillstone School for City of Birmingham Education Committee



ERECTION PERIOD— **5 MONTHS** —FOR AN ASCOS 200 PUPIL SCHOOL



ERECTION PERIOD— **80 DAYS** —FOR ASCOS CLASSROOM UNITS

Classrooms for County Schools. Surrey County Council

COSTS:

School for 200 pupils	*£15,500*
School for 200 pupils with Assembly Hall and Kitchen	*£22,000*
Classroom Units	
for 80 pupils with lavs.	*£4,500*
for 80 pupils without lavs.	*£3,500*
for 120 pupils without lavs.	*£5,500*

The schools are designed for Primary and Secondary pupils. Illustrated literature on application.

ANGLO-SCOTTISH

CONSTRUCTION COMPANY LTD.
NO. 1 THE RIDGWAY · LONDON, S.W.19
Telephone: WIM. 5277

SPECIALIST ADVISORY SERVICE

MeTcO

BACKED BY 34 YEARS' EXPERIENCE

We offer you Immediate Delivery from STOCK

DOORS & GATES

of all descriptions including :

PANELLED DOORS (Canadian Door Stock and Deal)
FLUSH DOORS (Plywood and Hardboard faced)
Prepared for locks or fitted if required.
OAK (Doors and Gates)

PLYWOOD

We are now holding large stocks of Plywood and Blockboard in Warehouses situated in the London, Manchester, Liverpool and Newcastle-on-Tyne areas.

These Stocks are available, free of all licencing restrictions, in a very wide range of thicknesses, sizes, grades and manufactures.

We specialise in the importation of popular sizes, 72″×36″, 72″×48″, 84″×48″ and 96″×48″ in thicknesses 3/16″, ¼″, ⅜″, ½″ and ¾″ suitable for the Building Trade, in addition to Blockboards, which we can supply in a variety of attractive woods in sizes as large as 67″×201″.

Full details of these Stocks will be gladly provided on request.

FIBRE BUILDING BOARDS

Hard, Insulating and Laminated Boards, in the following well-known trade-marked brands:

"UNITEX" Ivory Faced (Swedish)
"VIKING" (Swedish)
"KENMORE", "JUMBO", "BEAVER" and
"DONNACONA" (Canadian)
ENAMELLED HARDBOARDS
PERFORATED HARDBOARDS
ACOUSTICAL TILES

PLASTICS

Main Distributors of FORMICA and "TRAFFOLYTE" Decorative Laminated Plastic Sheets.
Prompt Delivery from our Southall Warehouse in the following finishes:—

FORMICA	TRAFFOLYTE
"Linette" "Onyx"	"R.U. Cream"
"Coarse Linette"	"White"
"Woodgrain"	"I.U. Ivory"
"Softblow"	"K.U. Green"

We can also supply "BOSCOPRENE 503 CEMENT", "BOSCOTEX PRIMER 5R" & "EVO-STIK" Adhesive for veneering FORMICA to table tops, counter tops etc.

BARTREV Chipboard

Made on the only continuous process machine, giving very competitive prices.

⅜″, ½″ and ¾″ in standard lengths of 8′, 10′ and 12′. Any length cut provided minimum order of 100 sheets for each length.

Bartrev either plain, painted or veneered, is ideal for partitioning, linings, ceilings, flooring, etc., in domestic, office and industrial buildings.

Stocks are available for immediate delivery at attractive terms to Merchants.

INDASCO BITUMEN EMULSION

for resilient Industrial Floor surfaces.

We invite your enquiries for any or all of the above, and will gladly send on request price lists, literature and samples, or instruct our local Representative to call on you.

We also offer you our SERVICES in :

METAL FIXING — PARTITIONING — ACOUSTICS

We have our wide range of MeTcO Metal Fixing Systems for the lining of roofs and walls and for flat ceilings, selection from which can meet any requirements in these fields.

Our MeTcO Partitioning is a sectional built-up system of components, taking all configurations, of extremely high salvage value when rearrangement or removal is desired, and designed for plain infillings or special panels of various materials, with either single or double glazing.

Acoustical Correction and Sound Quietening problems are dealt with by our various sound absorbent materials.

In these fields, we are organised to take charge of complete estimating and design, and the execution of the final job. Your enquiries accompanied by full data and preferably drawings are invited, and our Consulting and Technical Service is at your disposal.

The MERCHANT TRADING COMPANY Limited.
EFFINGHAM HOUSE, ARUNDEL STREET, STRAND, LONDON, W.C.2
Telegrams: "Themetraco, Estrand, London." Telephone: TEMple Bar 5303 (8 lines)

Modern styling....

for contemporary homes.....





A smart inset radiator in coinage-bronze, ideally suited for small rooms where space saving is important.

Output 9,000 B.Th.U.'s per hour. with a gas consumption of 18 cu.ft. per hour. Easily fitted into a recess formed by the removal of one thickness of brickwork from the wall.

HARPER HOUSEWARES

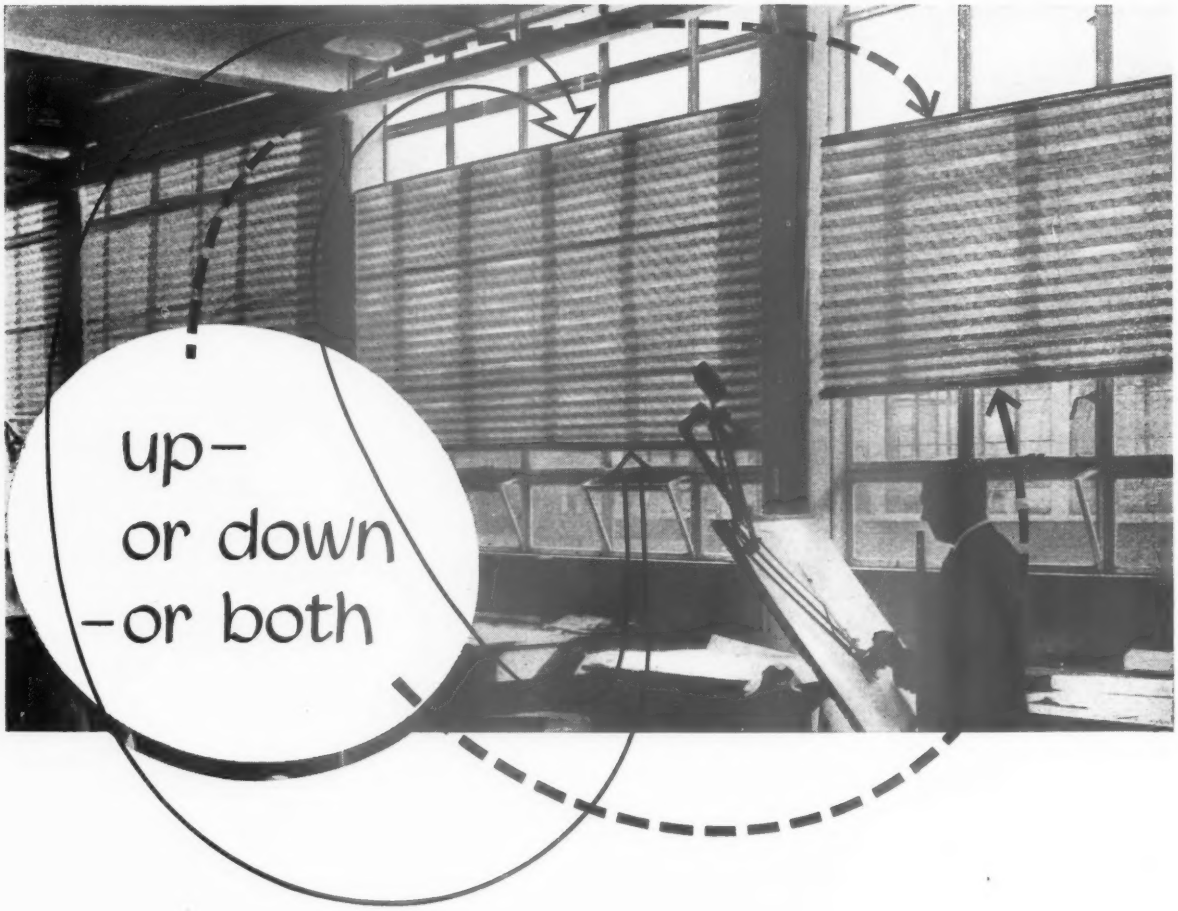
HARPER

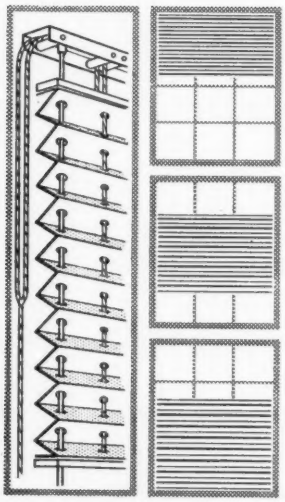
Nº 300 Inset Gas Radiators

JOHN HARPER & CO. LTD · ALBION WORKS · WILLENHALL · STAFFS

LONDON OFFICE: SEAFORTH PLACE, 57 BUCKINGHAM GATE · LONDON S·W·1 · Tel.: TATE GALLERY 0286

H.427





AN "ACCORDO" BLIND can be raised from the bottom and/or lowered from the top, as required. Of continuous, pleated fabric—not slats—it is held rigidly in position by guide rods, which prevent flapping when window is open. When not in use it stows compactly at top of window. Now installed in many of the most important hospitals, schools, public buildings in this country and abroad. Widths up to 15 ft.; in a range of attractive shades. Write for details of "Accordo" Sun Blinds; also of "Accordo" Dark Blinds, specially designed to provide light obscuration for laboratories, operating theatres, etc.

Simple, positive action, *with no springs, catches or moving parts to go wrong, and all metal parts rustless, mean that* ***no maintenance*** *is needed. Rot-proof, vermin-proof fabric is* ***self-dusting,*** *owing to bellows-action of pleats. Suitable for face-fixing or reveal-fixing (needing depth of only* $1\frac{5}{8}$ *in.); can be fitted to horizontal lay-lights or sloping roof-lights.*

ACCORDO Blinds

NO SLATS NO SPRINGS NO DUSTING

ACCORDO BLINDS LTD. 845, LONDON ROAD, THORNTON HEATH, SURREY, THO 6242-3-4
(A subsidiary of Hills (West Bromwich) Ltd.)

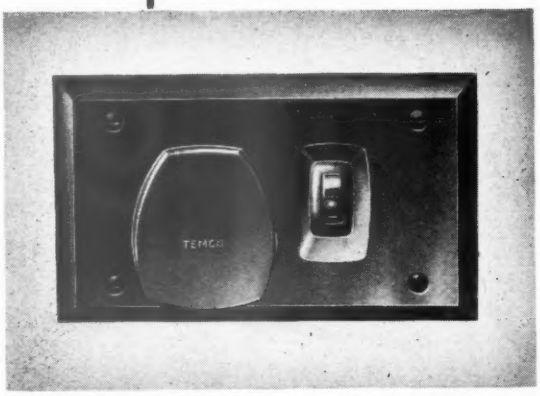
T.A. 6363

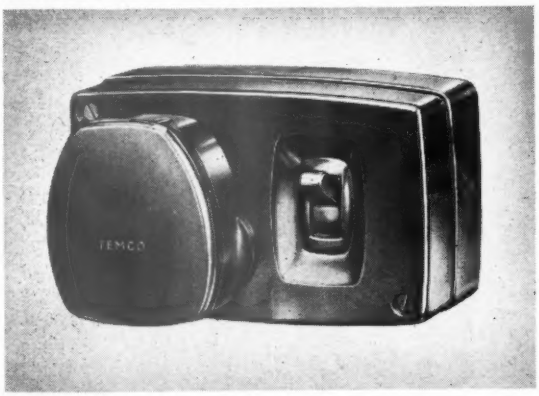
NEW

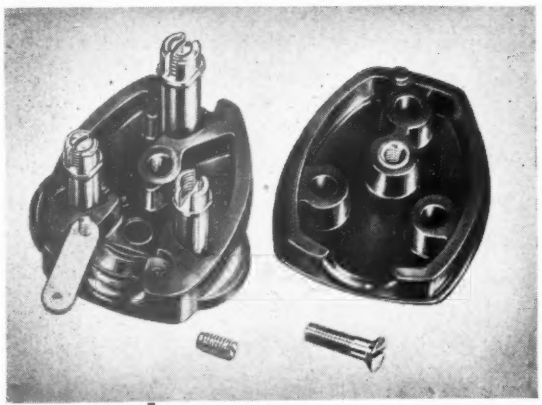
A. C. SWITCH SOCKETS & PLUGS

BY

TEMCO







SHORTLY AVAILABLE IN—

- ★ 5 and 15 amp. 3-pin to B.S.546
- ★ Surface and Flush
- ★ Single and Double Pole
- ★ Brown and Cream
- ★ Neat, attractive, individually packed
- ★ Designed for easy wiring
- ★ High quality at low price

If you have not received details of these new TEMCO Switch Sockets and Plugs, please write for the full descriptive leaflet.

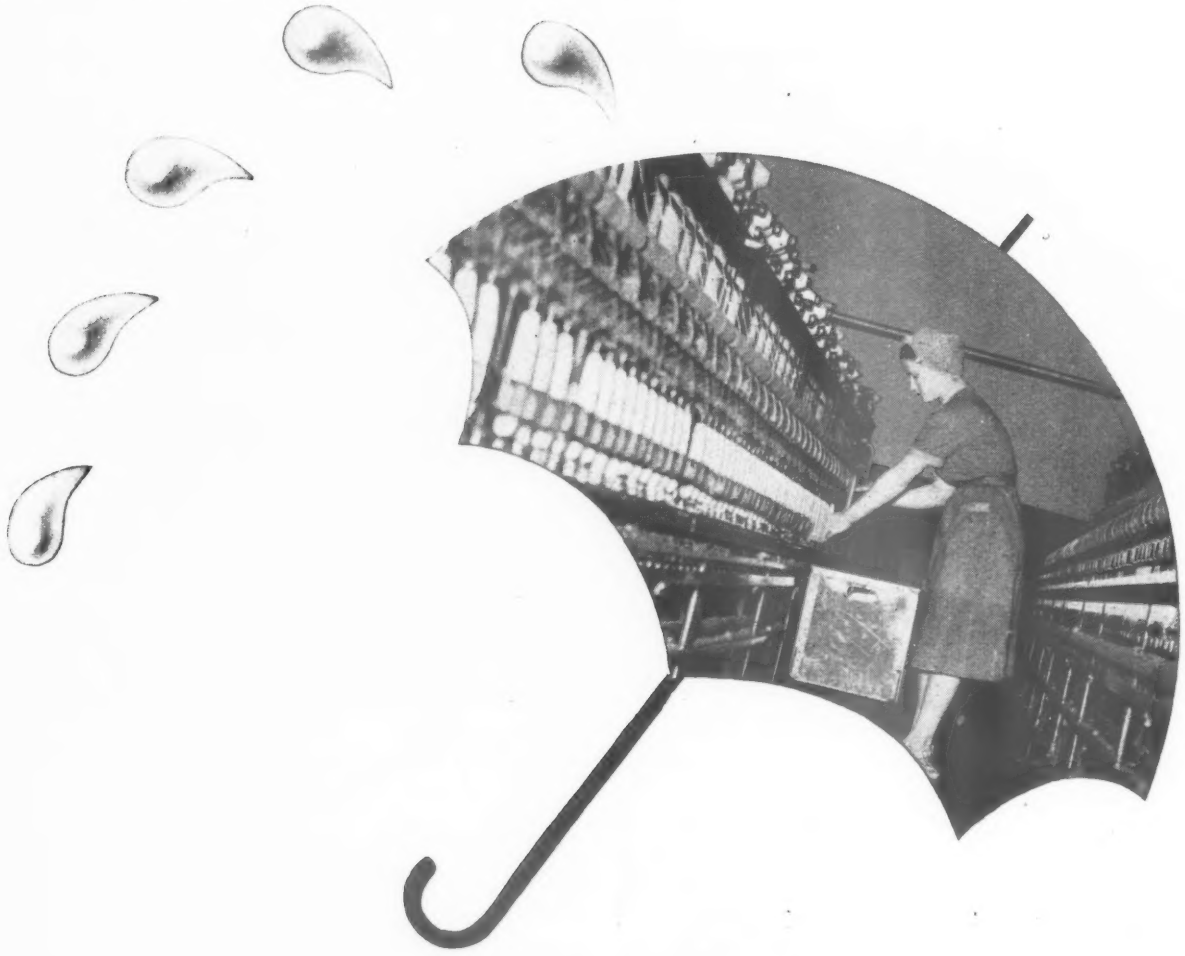
Manufactured by

TELEPHONE MANUFACTURING CO. LTD

and Marketed by their Sales Organisation:

T.M.C.—HARWELL (SALES) LTD. 37 UPPER BERKELEY STREET, LONDON, W.1

Telephone: PADdington 1867/8/9



Here's a well-nigh incredible thing

SECULATE ACTUALLY PREVENTS CONDENSATION

Condensation in industrial buildings, kitchens and laundries, in ships, aircraft, buses and railway carriages is admittedly a very unpleasant and irritating thing. But it's more than that. Much more. It is also downright destructive. How can condensation be prevented ? All kinds of expensive, difficult and time-consuming methods have been tried, but none of them was entirely satisfactory. It took a long time to find the right answer : a quick, clean and effective anti-condensation compound called Seculate. Seculate is quick drying. It adheres well to metal, stone, concrete, plaster, cement and wood. It dries with an even finish, it is washable, durable, mould-resistant and fire resisting. Seculate will not flake, even under intense vibration. Write to us for literature.

SECULATE

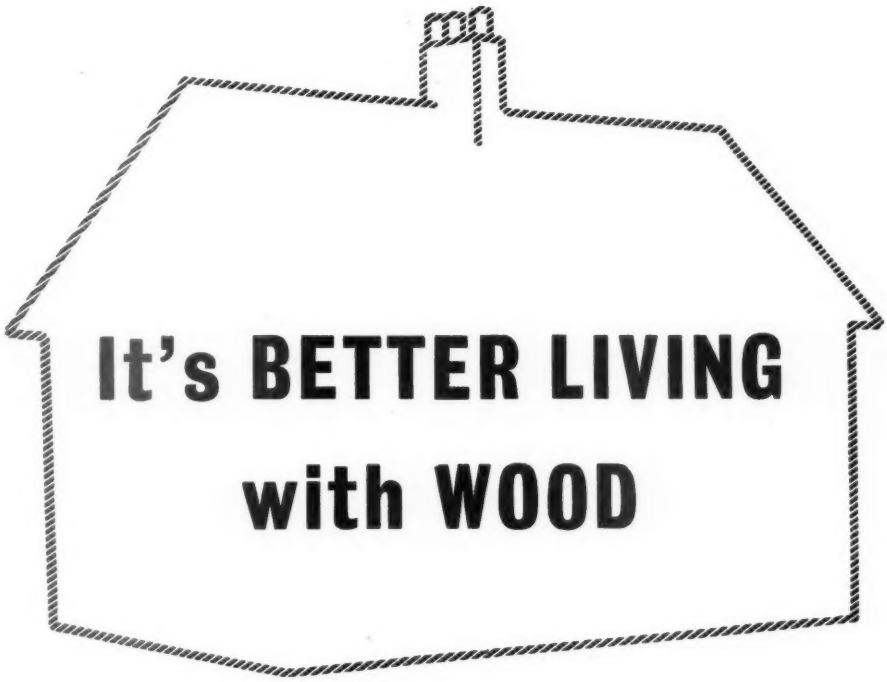
Patents applied for

ANTI-CONDENSATION COMPOUND

Supplied by **BRITISH LEAD MILLS LIMITED**

BYRON HOUSE, 7-8-9, ST. JAMES'S STREET, LONDON, S.W.1. WORKS : WELWYN GARDEN CITY, HERTS· ALSO WARRINGTON, LANCS.

CRC 25C



It's BETTER LIVING with WOOD

A house must be comfortable, weatherproof, warm and strong. That is why wood is the traditional house-building material. Its surface is pleasing to the touch. Its finish is pleasing to the eye. Wood is a warm, friendly and beautiful material with an adaptability that makes it always at home.

Government experiments have proved beyond doubt that timber means lower housing costs. Lower housing costs mean lower rents, rates and taxes.

From top to bottom in the house—roof, windows, doors, cupboards, furniture, staircase, floors—wood is the material that makes a house a home.

There's nothing like WOOD

ISSUED BY THE TIMBER DEVELOPMENT ASSOCIATION LIMITED · 21 COLLEGE HILL · LONDON · E.C.4
and branches throughout the country.

Hardwoods from Africa

Mahogany, Utile, Sapele, Obeche

We obtain our African Hardwoods from one of our subsidiary companies, who are actual producers of these woods in British West Africa. Thus we are able to import timber of known quality and maintain the reputation we have built up during the past three-quarters of a century. African Hardwoods are once more plentiful and we can meet the requirements of every branch of Industry.

BOARDS, SCANTLINGS, LOGS, PLANKS, STRIPS



Denny Mott & Dickson Limited

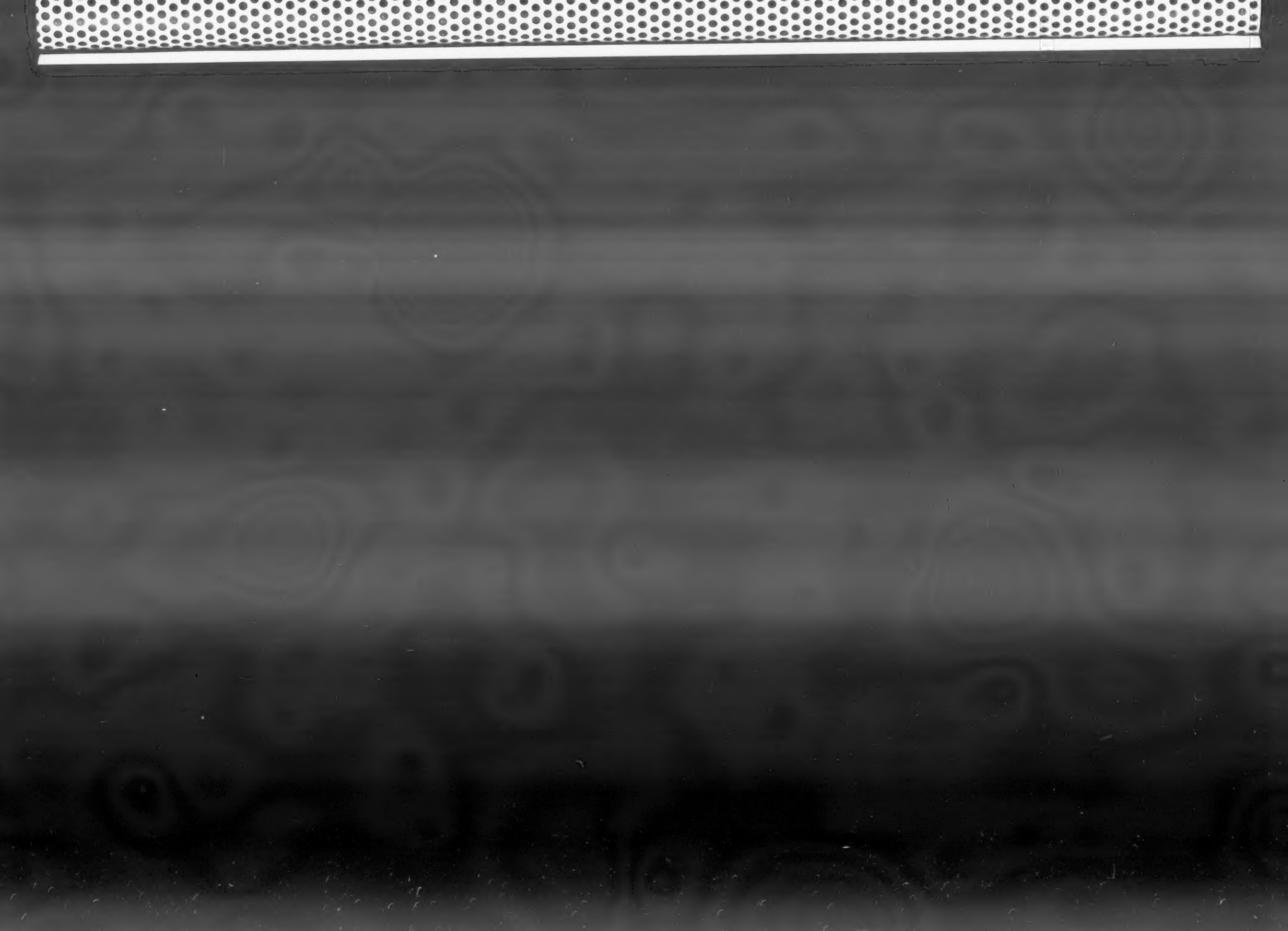
Importers & Stockists of Hardwoods, Softwoods, Plywood & Wallboards

ADELAIDE HOUSE, KING WILLIAM STREET, LONDON, E.C.4

Telephone: MANSION HOUSE 7961

Belfast, Birmingham, Bristol, Cardiff, Glasgow, Hull, Liverpool, Manchester, Newcastle, Preston, Southampton

234/40

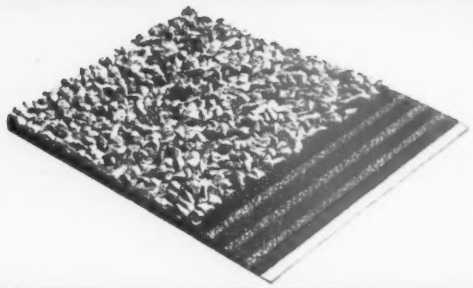


Architects are invited to write for the
"SMITHSON HANDBOOK OF PAINTS & PAINTING PRACTICE"



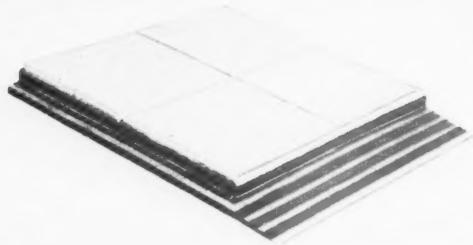
THOMAS SMITH & SON LIMITED
238-240 WHITECHAPEL RD., LONDON, E.1.
TELEPHONE: BISHOPSGATE 3717-8-9
MAKERS OF FINE PAINTS & ENAMELS SINCE 1790

Roofings by PERMANITE



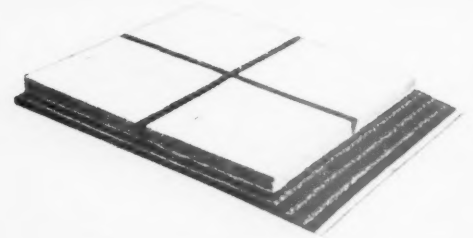
"PERMANITE." Multi-Layer Flexible Flat Roofing can be laid to any specification with a Mineral Surface Finish or a surface dressing of Grit or Coloured Chippings.

ECONOMICAL



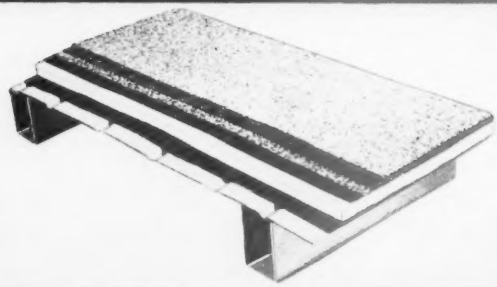
"PERMATILE." Specially recommended for maximum protection against solar radiation. "Permatile" heat-insulating tiles are laid over two or three layers of "Permanite" bitumen felt. Suitable for Roof Gardens, Balconies, Promenades, etc.

DURABLE



"PERMASUL." Similar to "Permatile" but can be laid in greater thickness to stand heavier traffic. Formed of two or three layers of "Permanite" bitumen felt with a screed of cement and sand or heat-insulating aggregate grooved into 2ft. square tile pattern.

FLEXIBLE



"PERMADEK." A complete lightweight insulated roofing consisting of rigid steel decking covered by insulating board and layers of bituminous roofing.

PERMANITE LIMITED

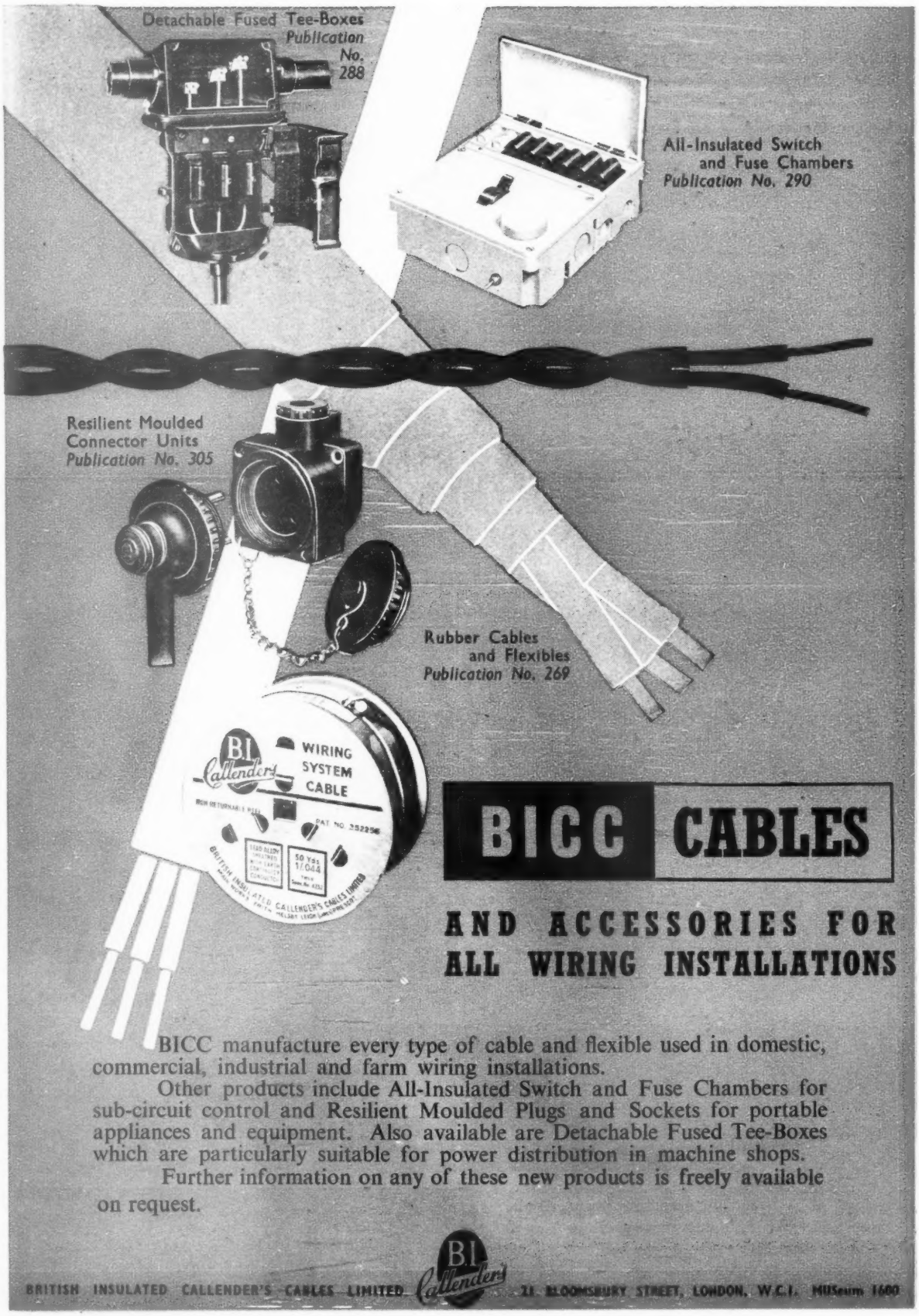
BIRMINGHAM
220, Kingstanding Road, 22c
Phone: Richfields 5041/3

LONDON—HEAD OFFICE
455, Oxford Road, E.3
Phone: ADvance 4477 (10 lines)

SALFORD
Phone: BLAckfriars 9451







BICC CABLES

AND ACCESSORIES FOR ALL WIRING INSTALLATIONS

BICC manufacture every type of cable and flexible used in domestic, commercial, industrial and farm wiring installations.

Other products include All-Insulated Switch and Fuse Chambers for sub-circuit control and Resilient Moulded Plugs and Sockets for portable appliances and equipment. Also available are Detachable Fused Tee-Boxes which are particularly suitable for power distribution in machine shops.

Further information on any of these new products is freely available on request.

BRITISH INSULATED CALLENDER'S CABLES LIMITED BI Callender's 21 BLOOMSBURY STREET, LONDON, W.C.1. MUSeum 1600

Thermacoust is the ideal modern roofing material. Thermacoust roofing slabs consist of wood wool bound under pressure with mineral cement and capable of bearing superimposed loads of more than 30 lbs./sq. ft. With spans up to 3ft. 4ins. no supports are needed. The attractive texture and the sound and thermal insulation values of Thermacoust permit its soffit to be advantageously exposed as a ceiling. Thermacoust has been tested for Fire Resistance, thermal conductivity (K = 0.58 B.Th. U./sq. ft./hr./F.°) and sound absorption (= 0·85 at 500 cycles). For modular planning, slabs are 6ft. 8in. by 1ft. 8in. by 2½in.

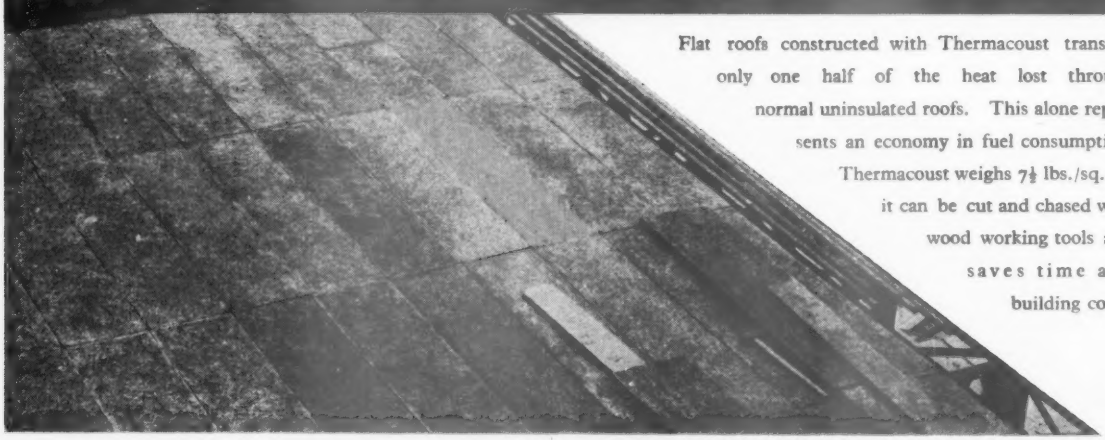
Blandford Forum Secondary Modern School
Architect: H. E. Matthews, F.R.I.B.A., County Architect Dorset County Council



Thermacoust

MODULAR 2½" ROOFING SLAB

Speed, economy and high insulation values ***in modular*** *planning*



Flat roofs constructed with Thermacoust transmit only one half of the heat lost through normal uninsulated roofs. This alone represents an economy in fuel consumption. Thermacoust weighs 7½ lbs./sq. ft., it can be cut and chased with wood working tools and saves time and building costs.

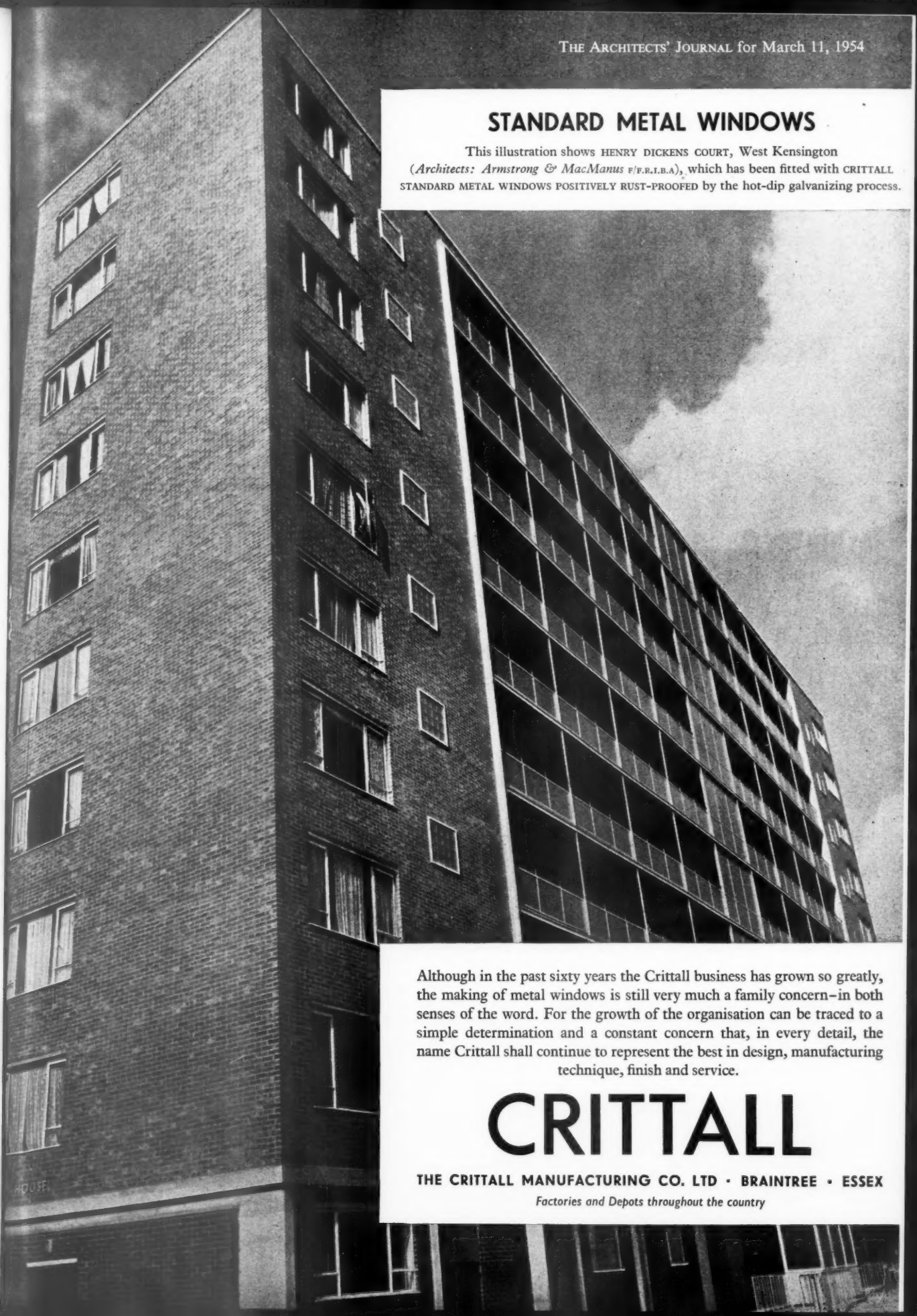
The Thermacoust advisory service can assist you in finding economical methods of constructing roofs with Thermacoust. Write for information sheet N.S.7.

Thermacoust Ltd.

271/12

STANDARD METAL WINDOWS

This illustration shows HENRY DICKENS COURT, West Kensington (*Architects: Armstrong & MacManus* F/F.R.I.B.A), which has been fitted with CRITTALL STANDARD METAL WINDOWS POSITIVELY RUST-PROOFED by the hot-dip galvanizing process.

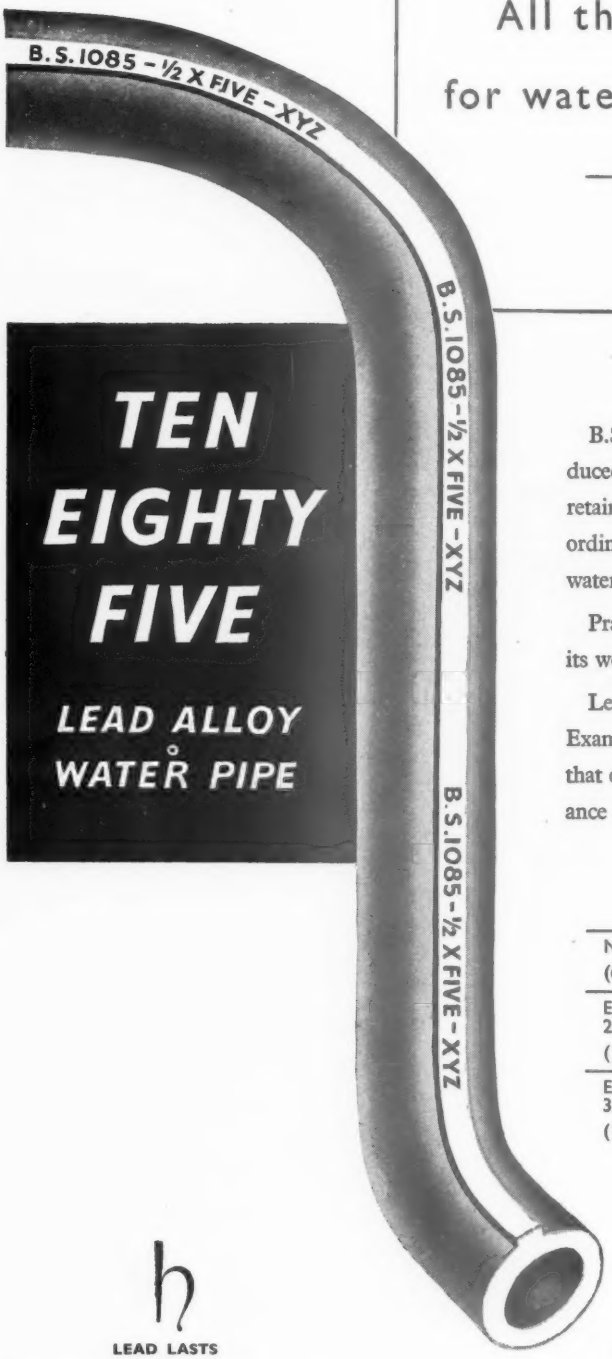


Although in the past sixty years the Crittall business has grown so greatly, the making of metal windows is still very much a family concern–in both senses of the word. For the growth of the organisation can be traced to a simple determination and a constant concern that, in every detail, the name Crittall shall continue to represent the best in design, manufacturing technique, finish and service.

CRITTALL

THE CRITTALL MANUFACTURING CO. LTD · BRAINTREE · ESSEX

Factories and Depots throughout the country



All the advantages of lead pipe for water service and distribution —in **LIGHTER WEIGHTS** per yard

B.S.1085 lead pipe (silver-copper-lead alloy) was first introduced 13 years ago as an improved lead pipe which, whilst retaining the high corrosion resistance and unique flexibility of ordinary lead pipe, would give stronger resistance to internal water pressure and thus permit the use of lighter weights.

Practical experience all over the country has completely proved its worth.

Less metal per yard of pipe means a marked saving in first cost. Examples of the lighter weights for water service and distribution that can be used with confidence of a high standard of performance are:—

Water pressures	Bore	Ordinary Weight lb./yd.	B.S.1085 Weight lb./yd.
Not exceeding 150 ft. head of water	½"	6	5
(65 lb. per sq. in.)	¾"	9	6
Exceeding 150 ft. but not exceeding 250 ft. head of water	½"	7	5
(108 lb. per sq. in.)	¾"	11	8
Exceeding 250 ft. but not exceeding 350 ft. head of water	½"	9	6
(152 lb. per sq. in.)	¾"	15	12

LEAD LASTS

The Council's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Details of the main uses are given in a series of Information Sheets and Bulletins, which can be obtained by applying to the Council.

This improved lead pipe gives the same high standard performance as ordinary lead —at **LOWER COST** per yard

LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, S.W.1

BII3/1/54



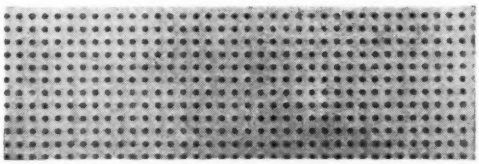


ACOUSTIC GYPROC for SELECTIVE SOUND CONTROL and ACOUSTIC CORRECTION

The photographs show Acoustic Gyproc applied to walls and ceiling in one of the Studios at the B.B.C. Building, Alexandra Road, Swansea.

Architect: Cyril A. Hughes, L.R.I.B.A., in association with B.B.C. specialists.

Contractors to B.B.C. (on completion of restoration by R. B. Burden Ltd. for Swansea Corporation): Bennett Brothers (Contractors) Ltd., Swansea.



Acoustic Gyproc (illustrated above) is a fire-protective gypsum plasterboard panel containing small perforations of specific diameter and optimum centres, allowing the correct admission of sound waves to an absorbent backing. Acoustic Gyproc has an ivory surface for immediate decoration.

Makers of thermal insulation and acoustic products including GYPKLITH *Wood Wool Slabs,* GYPKLITH *Acoustic Tiles,* GYPKLITH *Fluted Panels,* INSULEX *and* ZONALEX *Mineral Loose-fill Insulation Materials,* ACOUSTIC GYPROC, ZONAPLAX, VERMICULITE *Insulating Plaster,* DEKOOSTO *Acoustic Plaster.*

GYPROC PRODUCTS LIMITED

Head Office: Westfield, Upper Singlewell Road, Gravesend, Kent. *Telephone:* Gravesend 4251-4. *Telegrams:* Gyproc, Gravesend. Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. *Telephone:* Govan 2141-3. *Telegrams:* Gyproc, Glasgow. Midland District Sales Office: East Leake, near Loughborough. *Telephone:* East Leake 231. London Office: Morris House, 1-5 Jermyn Street, London, S.W.1. *Telephone:* Whitehall 8073-4.

A 1



LIGHTING

Mains interruption can carry serious risks in the modern laboratory.

Risks of loss and damage—and sometimes danger. When new laboratories are built, emergency lighting will be installed, and the architect will plan the installation. Chloride Batteries Ltd., makers of Keepalite, the automatic emergency lighting system, offer the advisory services of their engineers to architects in any part of Great Britain.

Keepalite
FOR LABORATORIES

A Product of Chloride Batteries Limited, Exide Works, Clifton Junction, Swinton, Manchester and Grosvenor Gardens House, Grosvenor Gardens, SW1 S. 48

ALL SORTS OF BUILDINGS *use*

ARENS REGD. TRADE MARK

REMOTE CONTROLS,

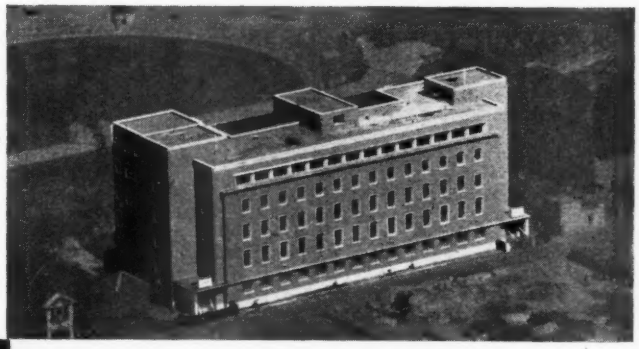
COVERED BY PATENTS

especially SCHOOLS *and* HOSPITALS

OFFICE, exchange and airport all agree that

ARENS WINDOW CONTROL GEAR

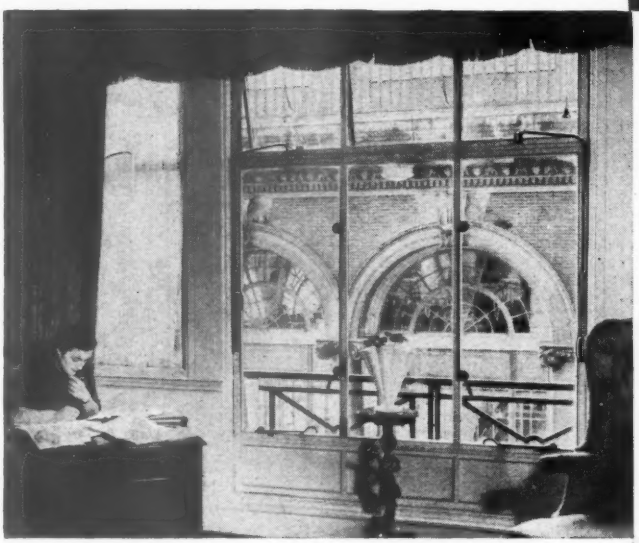
is ideal for the remote operation of windows, dampers and all sorts of plant and machinery.



The Telephone Exchange, Cardiff.

Architects : The Ministry of Works.

Arens gear supplied by J. Williams & Sons (Cardiff) Limited, East Moors Road, Cardiff.



An Office in Mappin House, Oxford Street, London, W.1.

Arens controls supplied by Mellowes & Company, Limited, of Sheffield.

Photograph by courtesy of Mappin & Webb, Limited.

NEW ARENS CATALOGUE!

Containing full particulars of our

WINDOW CONTROL GEAR

76 pages—fully illustrated

ARCHITECTS and PRINCIPALS are invited to write to us for a copy



The Dublin Airport Terminal Buildings are fitted with Arens window control gear.

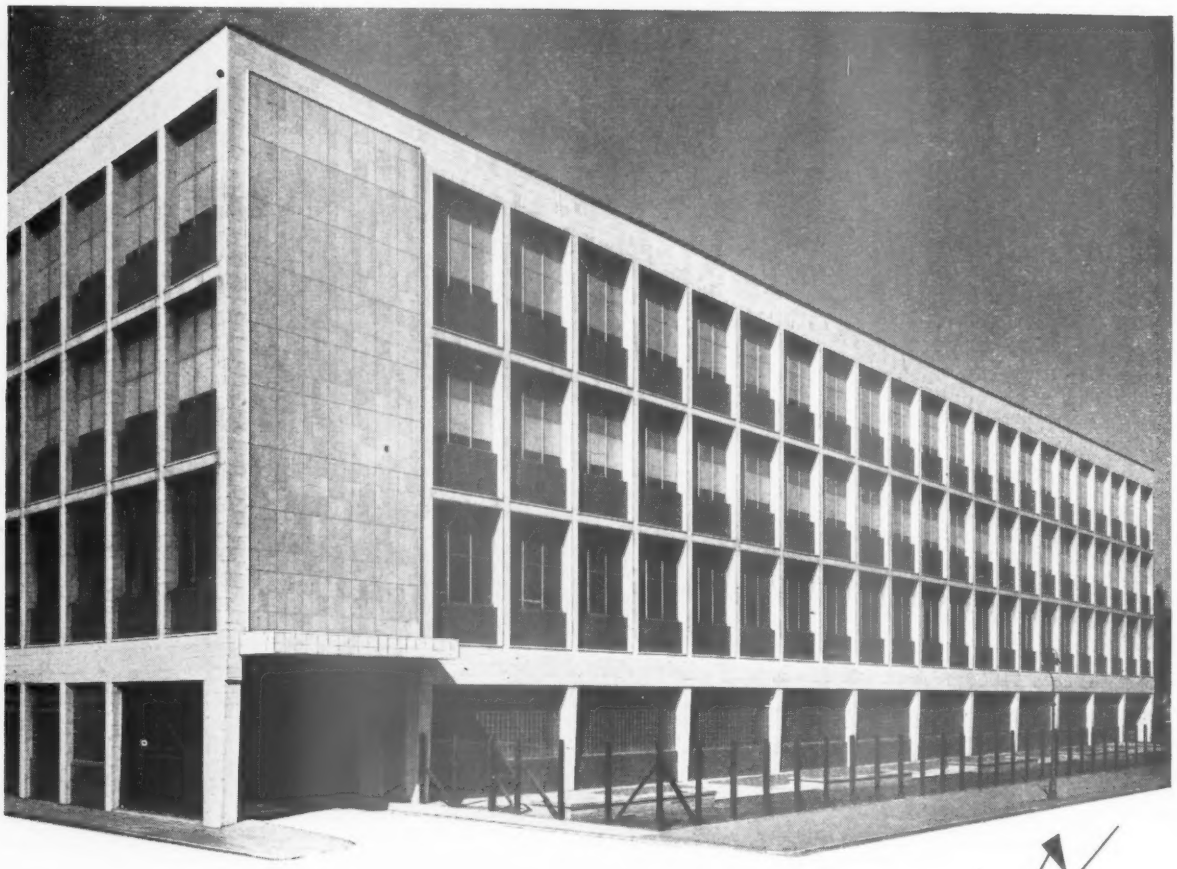
Architect : Desmond Fitzgerald, B.Arch., A.R.I.B.A., F.R.A.I.A., A.M.P.T.I.

❖

ARENS CONTROLS LTD.

TUNSTALL ROAD · EAST CROYDON · SURREY

Telephone : ADDiscombe 3051/4



ARCHITECTS:
Messrs. W. S. Atkins & Partners,
158 Victoria St. London, S.W.1

FOR LASTING BEAUTY

Burmantofts Faience

Like early classical pioneers in clay, the Leeds Fireclay Company Limited build to last! Their 'Burmantofts' Faience, which gives so colourful a finish to this impressive Hull factory (recently built for Messrs. T. E. Smith & Nephew, makers of *Elastoplast*) was specified as much for its durability as for its beauty of texture and colour. Specially treated to resist staining, crazing and discoloration, 'Burmantofts' Faience is available in no fewer than 40 different colours and shades.

Ancient Greek Temple Shrine of the Goddess of Victory

build to last, with . . .



THE LEEDS FIRECLAY COMPANY LIMITED

REGISTERED TRADE MARK

CERAMIC AND REFRACTORY PRODUCTS

WORTLEY, LEEDS, 12. TELEPHONE: LEEDS 38021
LONDON OFFICE: LEEDS HOUSE, CAVENDISH PLACE, W.1
TELEPHONE: LANgham 3511 (3 lines)



"Meet me for Lunch at Hammonds!"

How can a big department store best attract its customers? Hammonds of Hull have a special attraction: a restaurant so well run that shoppers use it as a regular rendezvous. The service is quick and the food always right, because Hammonds have installed **RADIATION LARGE COOKING EQUIPMENT** in their modern, labour saving kitchens.

Radiation Kitchen Planners will give you expert advice on the designing, planning and equipping of your kitchen—all free of charge! Consult them on the installation of any and every sort of kitchen equipment, from a complete kitchen unit down to single items.

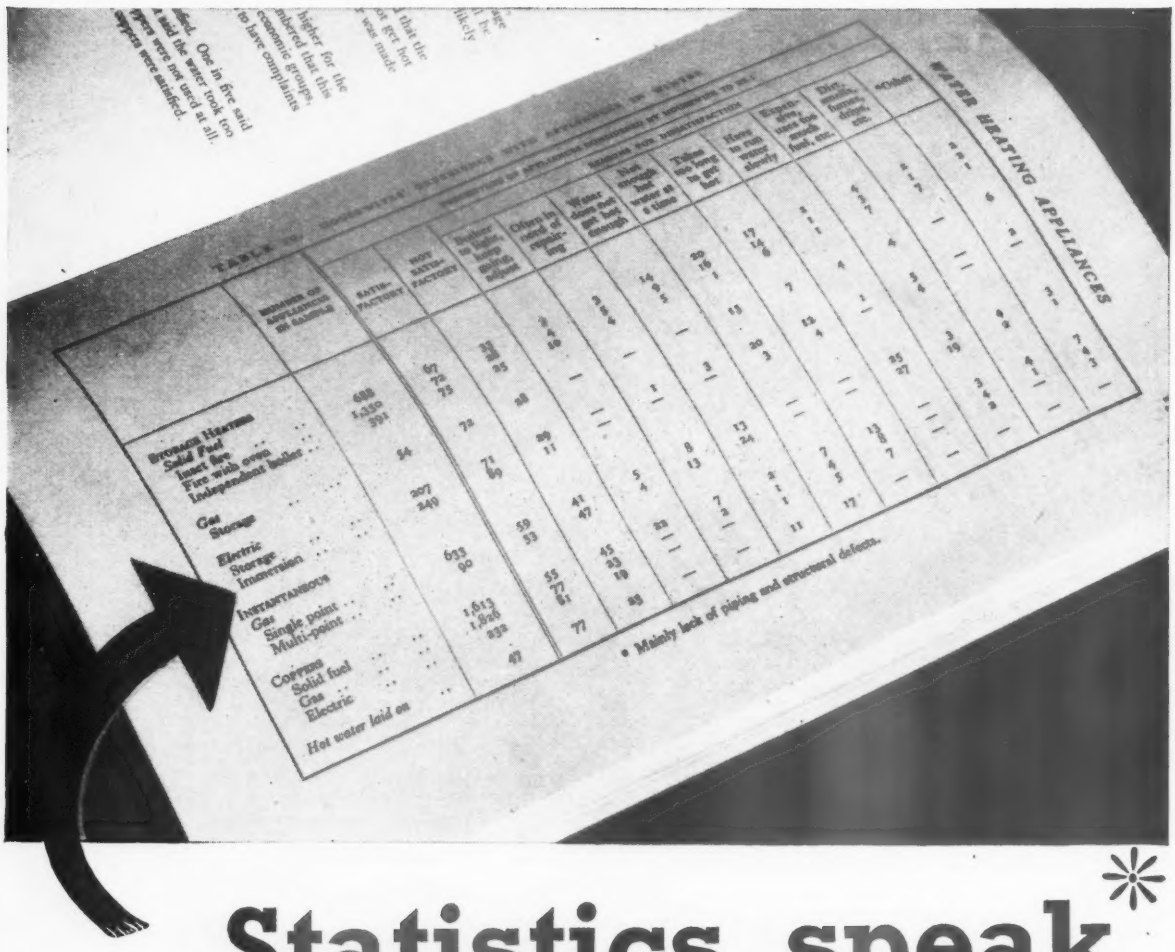
Radiation After Sales Service maintains equipment at the highest pitch of mechanical efficiency. Regular inspection keeps down fuel bills and ensures the maximum work from every piece of equipment.

Let **RADIATION** solve your next kitchen equipment problem—just write or phone.



WARRINGTON, LANCS. *Warrington 1172*
7 STRATFORD PLACE, LONDON. W.1
MAYfair 6462

Radiation
GROUP SALES LTD
LARGE APPARATUS DIVISION



Statistics speak

for Electric Immersion Heaters

"Amongst the piped appliances the immersion heater was thought satisfactory by the highest proportion."

The above paragraph from an official Government Report* on domestic water heating is evidence that the consumer *wants* immersion heating as a supplementary system. The investigation found that 89% of the housewives using immersion heaters found them satisfactory. The next highest proportion of satisfied users for any appliance was 75%, whilst others were as low as 53%.

It is not surprising that the economical, easily installed, clean, and entirely automatic immersion heater is so popular nor that it has been endorsed in such an emphatic manner by unbiased government research.

By specifying B. N. E. Immersion Heaters you can be sure that you are meeting popular demand with an extremely efficient appliance. You will know that every heater carries the reputation of an organisation with over 75 years' experience in the electrical field ; a firm with depots throughout the country staffed by qualified men ready to give you advice and service without obligation. Ask for publication HD 23 which gives full details of B.N.E. Immersion Heaters and Circulars

* National Building Studies Special Report No. 8 "An Inquiry into Domestic Hot Water Supply in Great Britain" (H.M. Stationery Office)



BRITISH NATIONAL ELECTRICS LTD.

The Domestic Appliance Section of JOHNSON & PHILLIPS LTD.

NEWARTHILL MOTHERWELL SCOTLAND





THE ADHESIVE COMPOUND SPECIALLY PRODUCED FOR THE FIXING OF CERAMIC TILES

RICHAFIX



the New method

"Wouldn't it be lovely if we could have this room tiled?—but it would cause so much mess and trouble . . . "

How many times have we all heard that remark! ***Here is the answer at last.***

"RICHAFIX" enables the tiler to fix his glazed tiles directly onto the flat wall without hacking off or rendering—whatever the composition of the wall may be.







1. **Spread the "RICHAFIX" on the wall.**
2. **Comb it to leave ribs ¼" deep.**
3. **When 'tacky', fix tiles in position — no soaking required.**
4. **Grout as usual.**

Please ask for booklet A.J.R.1 which explains the subject fully and gives detailed fixing instructions.

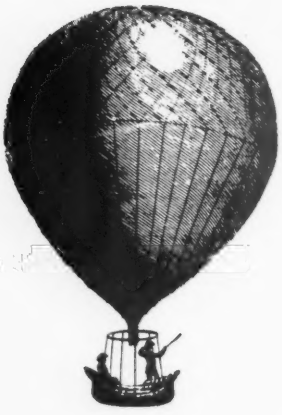
LONDON SHOWROOMS: GRAND BUILDINGS, TRAFALGAR SQUARE, W.C.2
TELEPHONE : WHITEHALL 2488/8063

DESIGN



U310

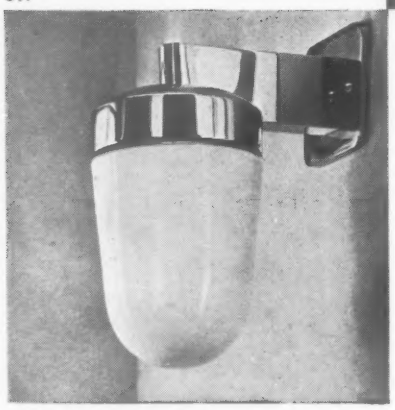
TROUGHTON & YOUNG



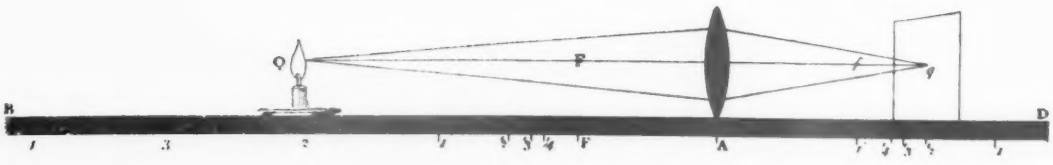


U17

UNDERSTANDING

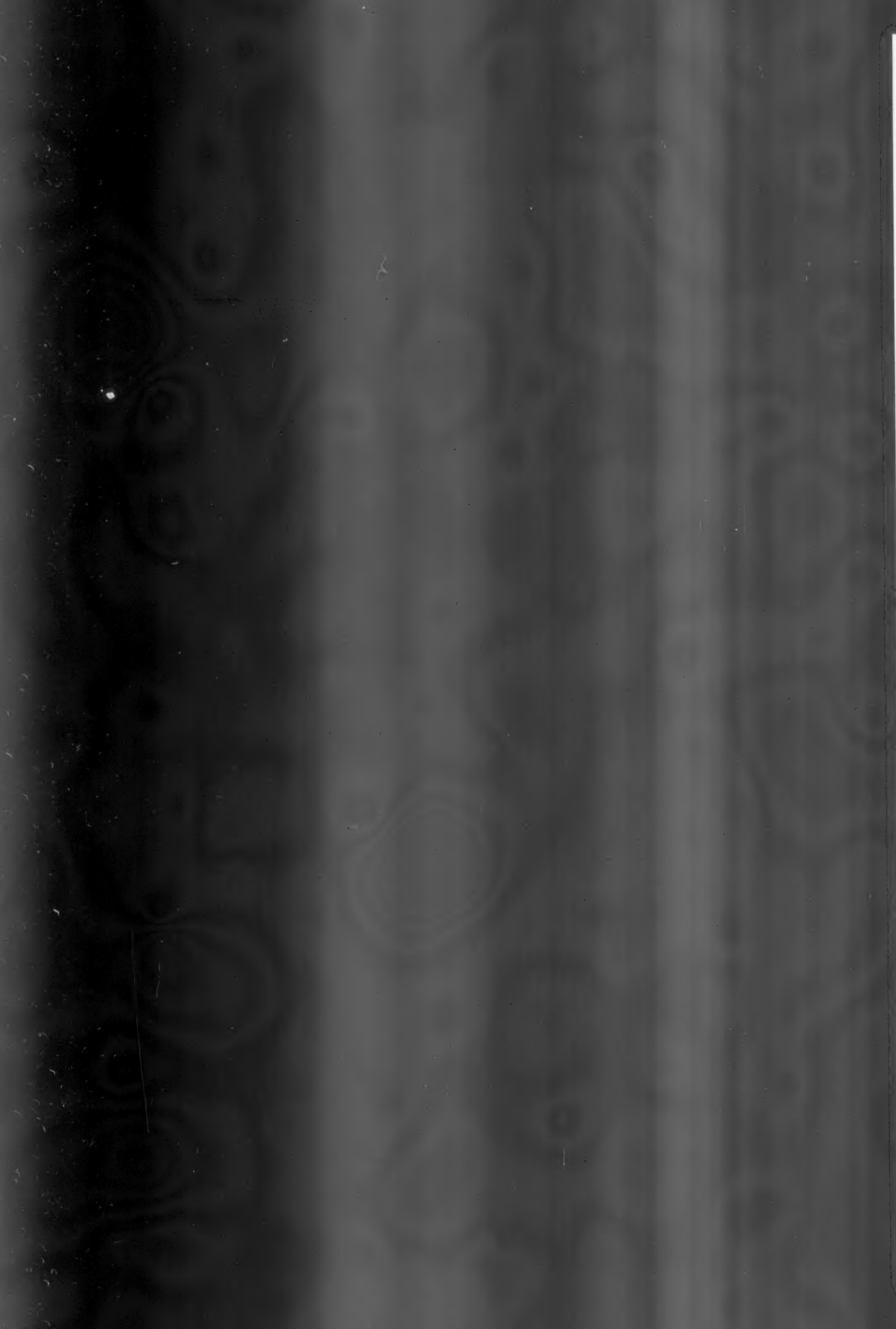


WORKMANSHIP



Design, workmanship and understanding are qualities that are integrated in the four main sections of our range of lighting fittings—Ultralux, Versalite, Tubalux and Mondolite. It is this understanding of the practical and technical problems of lighting that enables us to offer real assistance to architects.

TROUGHTON & YOUNG (Lighting) LTD., 143, Knightsbridge, S.W.1. Tel.: Ken. 3444.

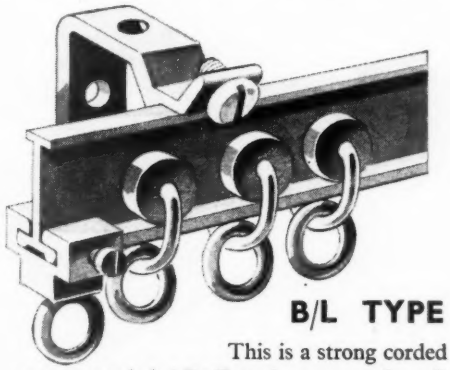


Every new building calls for the specification of

'Rufflette' BRAND

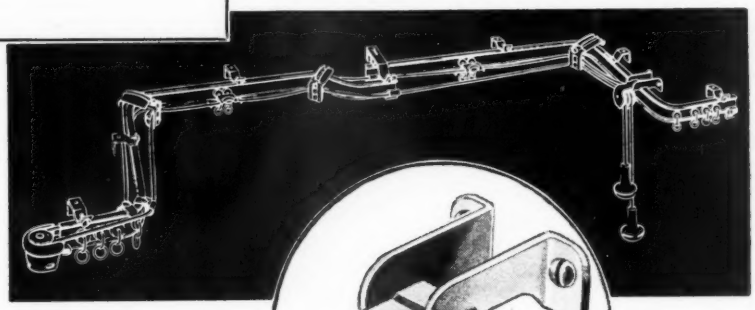
CURTAIN RUNWAY SYSTEMS

'Rufflette' Brand Runways, either corded or non-corded, are being increasingly used as landlord's fixtures in many new building schemes. Full details will be supplied on request.



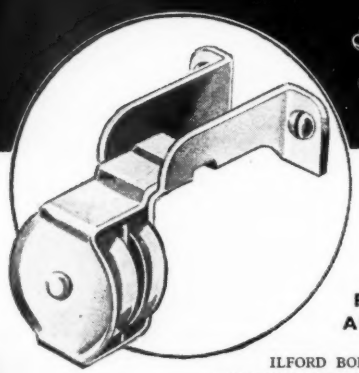
B/L TYPE

This is a strong corded or non-corded 'Rufflette' runway for all general purposes. Also available in plastic.



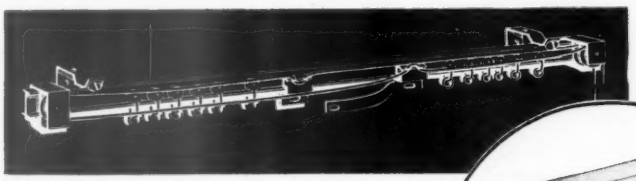
FOR BAY WINDOWS

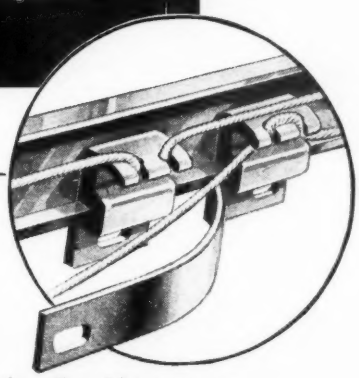
'Rufflette' Brand Curtain Runways have been developed for every curtain suspension need. Shown on right is the new cord-controlled 'Rufflette' runway for fitting to bay windows.



FOR STRAIGHT RUNS

For straight runs, curtains can be effortlessly opened or closed with this 'Rufflette' cord-controlled runway with sliding overlap arm. Brackets are top or face fixing, and are designed to save valuable fitting time and cost on the job.





** Note the curved travelling section which enables curtains to be overlapped without cutting rail.*

CHOSEN BY THE FOLLOWING AUTHORITIES

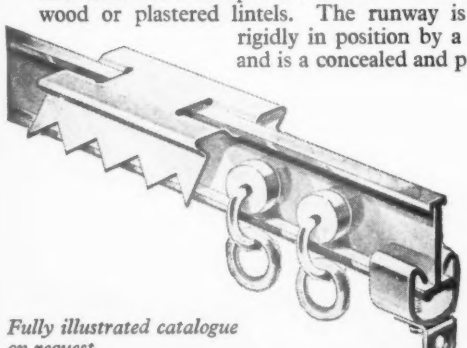
ILFORD BOROUGH COUNCIL
WANDSWORTH BOROUGH COUNCIL
LEWISHAM BOROUGH COUNCIL
WILLESDEN BOROUGH COUNCIL
FINCHLEY BOROUGH COUNCIL
WOOD GREEN BOROUGH COUNCIL
POPLAR BOROUGH COUNCIL
WIMBLEDON BOROUGH COUNCIL
GREENWICH BOROUGH COUNCIL
STOKE NEWINGTON BOROUGH COUNCIL
ISLINGTON BOROUGH COUNCIL
HOLBORN BOROUGH COUNCIL
LEYTON BOROUGH COUNCIL
WEST HAM BOROUGH COUNCIL

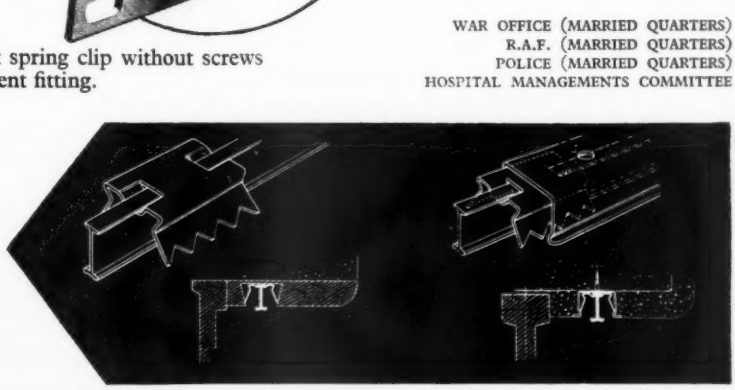
LONDON COUNTY COUNCIL
BUCKS COUNTY COUNCIL
SURREY COUNTY COUNCIL
MIDDLESEX COUNTY COUNCIL
KENT COUNTY COUNCIL
ESSEX COUNTY COUNCIL
SCHOOLS

WAR OFFICE (MARRIED QUARTERS)
R.A.F. (MARRIED QUARTERS)
POLICE (MARRIED QUARTERS)
HOSPITAL MANAGEMENTS COMMITTEE

OR AS A BUILT-IN INTEGRAL UNIT

'Rufflette' Brand Recessed Curtain Runway is a permanent and integral part of building construction. It is inexpensive and can be fitted into wood or plastered lintels. The runway is held rigidly in position by a patent spring clip without screws and is a concealed and permanent fitting.





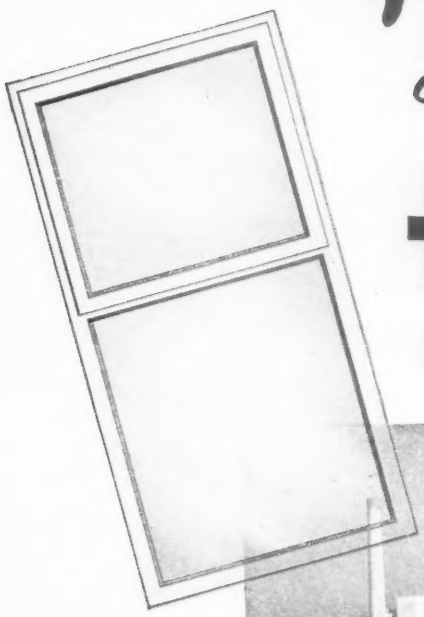
Fully illustrated catalogue on request

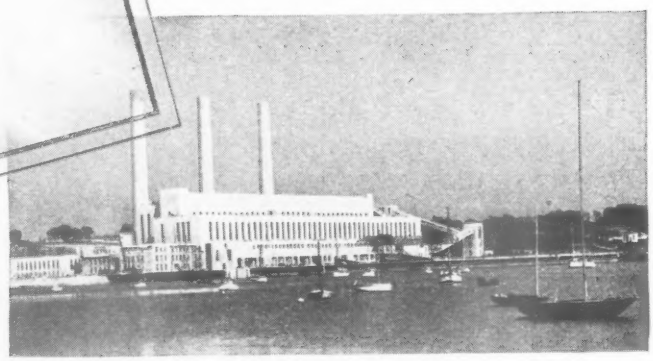
THOMAS FRENCH & SONS LTD., CHESTER ROAD, MANCHESTER, 15. *Also at London, Wythenshawe, and in U.S.A. and Canada*

Don't take chances...with your Glazing

Specify ARBOLITE

METAL CASEMENT PUTTY





Cliff Quay Power Station
GLAZED THROUGHOUT WITH ARBOLITE
Architects: Farmer & Dark
Contractors: Edmund Nuttal Sons & Co. (London) Limited
Windows: Henry Hope & Sons Limited
Glaziers: J. G. Nicholls (1935) Limited

ARBOLITE *contains* Arbosyn

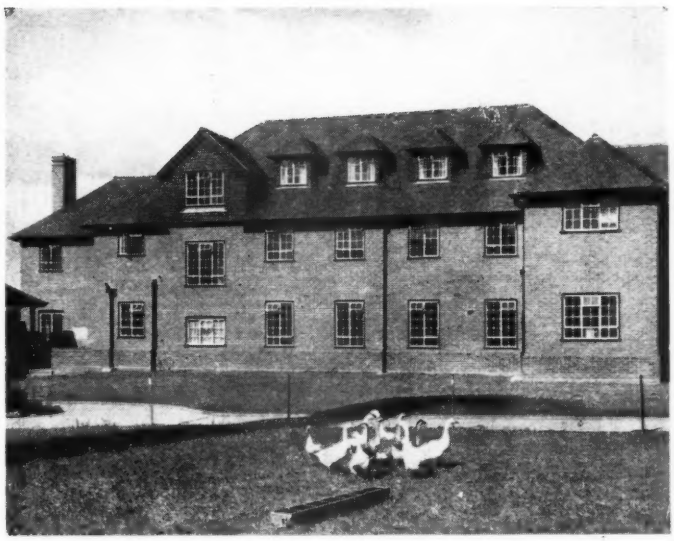
ARBOLITE is the only putty containing Arbosyn which ensures—

freedom from cracking
freedom from wrinkling
greater durability
better keying properties
good setting properties
easy working consistency
longer keg life

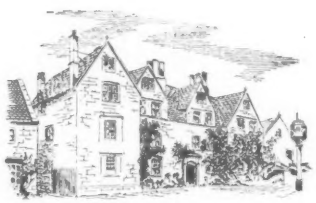
★ *full descriptive literature on request*

ADSHEAD RATCLIFFE & CO · LTD · BELPER · DERBY · *Tel. Belper* 351/2

IT takes a long time to make good clay tiles; time well spent, for the warm tones of Acme and Acme Sandstorm Tiles will never fade. Their colour, burnt in at high temperatures, is *absolutely permanent* —their superior strength saves on-site breakages and maintenance.
Acme and Acme Sandstorm Tiles are made from the well known Etruria Marls of Staffordshire—acknowledged to be the best clay in the world for tile manufacture. They are available in a wide range of colours, with fittings to match. *Nation wide delivery from stock.* Send for the Acme Catalogue, containing valuable technical information.



Harper Adams Agricultural College, Newport. Architect: Leslie B. Byram, A.R.I.B.A.



A village street, the old houses cuddling together, their friendly roofs echoing with muted tones the colours of the surrounding acres. The clay tiled roof is part of the picture of Britain—part of a heritage to which we can add.

There's nothing so good
as a *clay* tiled roof...

CLAY *lasts*



For enduring beauty . . . specify

ACME SANDSTORM
clay roofing tiles

DOWNING'S *range of roofing tiles includes:* —
ACME M.M. ROOFING TILES, ACME SANDSTORM ROOFING TILES,
ACME CENTURY HANDMADE SANDFACED and ACME REDFLOOR QUARRIES

G. H. DOWNING & CO. LTD. (Dept. C.I.), BRAMPTON HILL, NEWCASTLE-UNDER-LYME, STAFFS.
Telephone: Newcastle-under-Lyme 65381

L.G.B.



6 WIDTHS
10′ 12′ 15′ 20′ 25′ 30′
3 EAVES HEIGHTS
7′0″ 8′0″ 10′0″
ANY LENGTH.

Whenever you require a timber building of any kind, write without delay to

THORNS

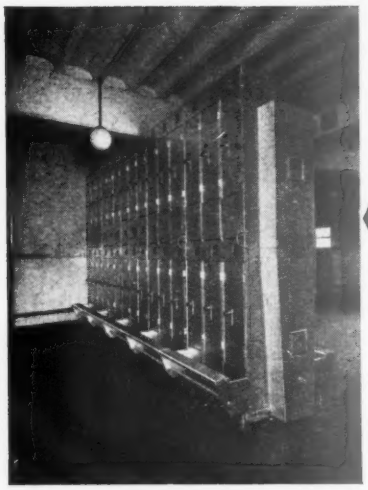
For Hutted Camps, Hospital Extensions, Halls, Offices, etc.

J. THORN & SONS LTD (Dept 188) · BRAMPTON ROAD · BEXLEYHEATH · KENT

Telephone: Bexleyheath 305. Established 1896.

BD 530

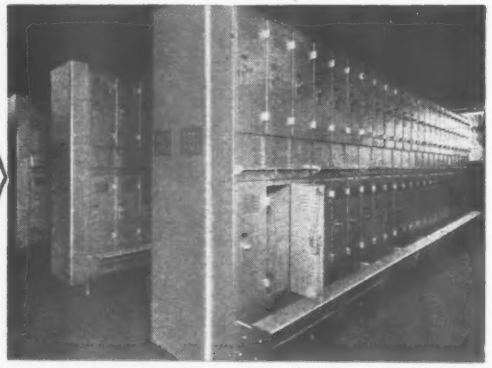
INDUSTRIAL LOCKERS

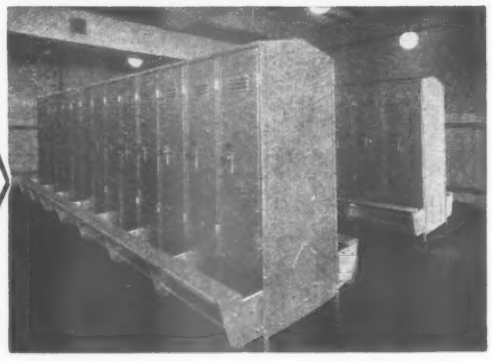


A TYPE
General utility locker adaptable to any aisle length or awkward site. Shows end shrouding.

B TYPE
De Luxe locker, flush fitting doors, full overcoat length. Supplied in units of three locker lengths. Single or double tier.

C TYPE
Superior lockers for administrative staff, senior personnel in laboratories, etc.





Full technical and layout particulars covering every type of Industrial Furnishing equipment, instantly available, in fact wherever you are on this globe a call by post, telephone or in person will bring the services of a Speedwell expert installation engineer to help you.

SPEEDWELL GEAR CASE CO. LTD.

TAME ROAD, WITTON, BIRMINGHAM 6. Telephone EAST 2261. Telegrams SPEEDWELL BIRMINGHAM, 6

CELOTEX *Fire Resistant Insulating Board*

gives you the thermal insulation of Celotex

***plus** the fire resistance of asbestos*



IN THE B.S. 476 SPREAD-OF-FLAME TEST, CELOTEX FIRE RESISTANT INSULATING BOARD—RATED CLASS 1—SHOWED NO SPREAD OF FLAME WHATSOEVER!

Celotex Fire Resistant Insulating Board is the result of intensive research to meet industry's need for a building board giving fire protection *and* thermal insulation. Made with a core of tough, durable Celotex cane fibre Insulating Board, sheathed on both sides with asbestos felt, it retains all the world famous qualities of Celotex insulation. The outward appearance is attractive with high light-reflecting surface which may be further decorated if required.

Easily cut and handled, it is the outstanding choice for wall, roof and ceiling linings and for partitions in buildings of every description —*and it is available at a really economical price.*

- ✳ CORE OF CANE FIBRE INSULATION
- ✳ ASBESTOS SHEATHED ON BOTH SIDES
- ✳ ATTRACTIVE LIGHT REFLECTING SURFACE
- ✳ CAN BE EASILY DECORATED IF REQUIRED

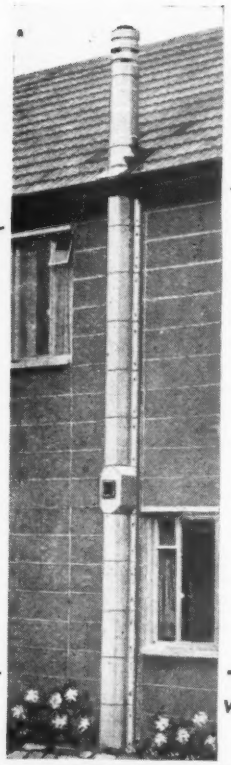
Write for further details, samples and the address of your nearest distributor.

SIZES AND THICKNESS Lengths: 6, 7 and 8ft. Widths: 2 and 4ft. Thickness: ½in.

A New **CELOTEX** *Product*

MADE IN GREAT BRITAIN BY CELOTEX LIMITED, STONEBRIDGE PARK, LONDON, N.W.10 TELEPHONE: ELGAR 5717

TRUE-FLUE Ltd — PATENTED PRECAST EXTERNAL FLUE

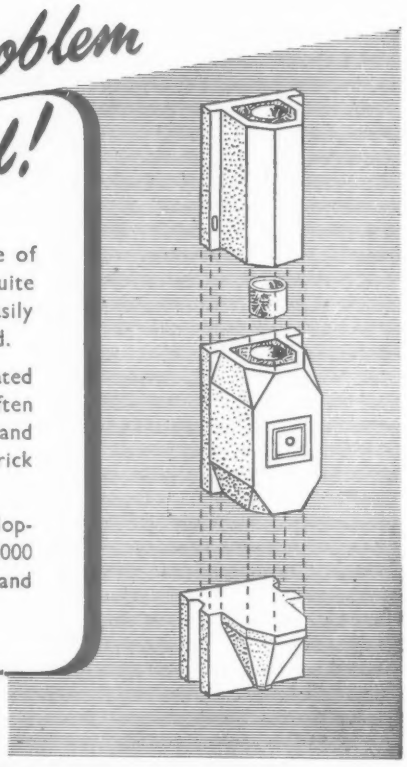


an Outstanding problem solved!

This is an economical and efficient Boiler Flue of pleasing appearance which can be bolted quite simply to an external wall. Each section is easily handled and no elaborate scaffolding is required.

The Flue has a refractory lining and is well insulated to overcome the condensation troubles so often experienced with asbestos or iron flue pipes and can be erected at a fraction of the cost of a brick stack.

Although this is one of our most recent developments we have already supplied approaching 2,000 of these flues to various local Authorities and Contractors.



Write for illustrated booklet and price list to the address at the foot of this page.

Also TRUE FLUE TRIPLE UNIT TYPE 'A'

PATENT No. 567066 · REGD. DES. No. 843342

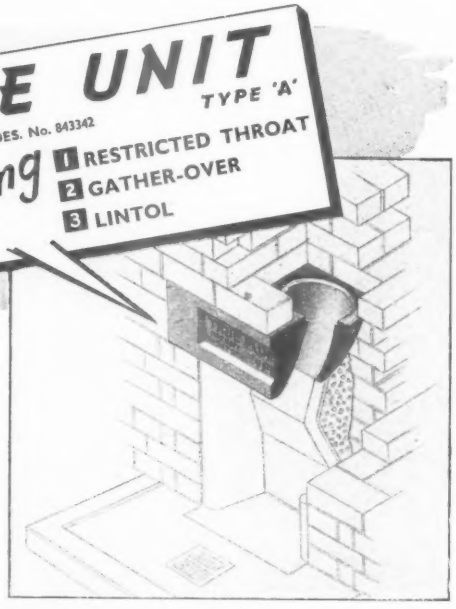
Comprising 1 RESTRICTED THROAT 2 GATHER-OVER 3 LINTOL

This THREE-FOLD labour saving and efficient device is made of heat resisting refractory concrete and forms a stream-lined connection between the fire and the flue.

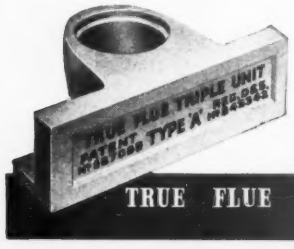
1 The Restricted Throat is scientifically designed to ensure maximum heat retention and economy in fuel.

2 This unit eliminates the labour involved in forming the Gather-Over in brickwork above the fireplace opening. When placed in position over the fire-back it forms a base for TRUE-FLUE circular rebated linings or for the 9in. by 9in. parged flue as shown.

3 The Lintol has a weir-shaped front and is of sufficient width to afford adequate seating on jambs with all normal fireplace openings. The face of the Lintol is recessed to provide an insulation space at the back of the fireplace surround.



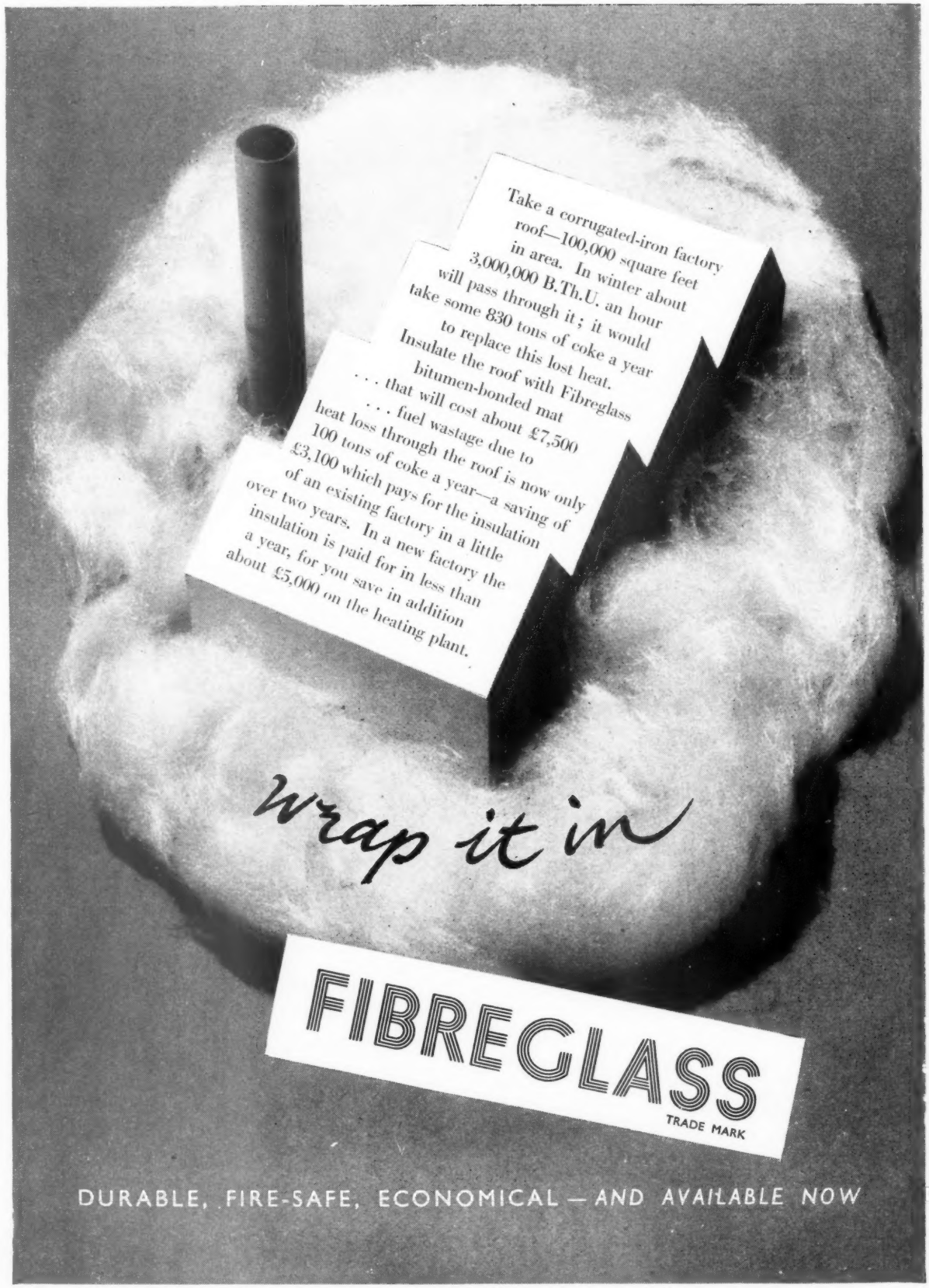
FOR MANY YEARS these TRUE-FLUE TRIPLE UNITS have been increasingly specified by numerous local Authorities and Architects. They were employed in the tests carried out by the Ministry of Fuel and Power on a large range of heating appliances and are also specified by the Ministry of Works, Metropolitan Police, British Railways and London County Council. During the past four years we have supplied approximately 15,000 complete flues to the latter Council alone.



REMEMBER—We are specialists in all matters relating to flues and can give you the benefit of nearly half a century's experience. We shall be pleased to design your stack in TRUE-FLUE construction (with or without convector heating), free of all cost to yourselves.

For further information please apply to :—

TRUE FLUE LTD., CONVECTOR HOUSE, ACACIA ROAD, ST. JOHN'S WOOD, N.W. 8.
TELEPHONE: PRIMROSE 7161/2



Fibreglass Limited, Ravenhead, St. Helens, Lancs. (St. Helens 4224)

OXYLENE BORAM

FIRE RETARDANT COATING

PREVENTS THE SPREAD OF FLAME

Raises INSULATION BOARD to CLASS I

Easy to mix, economical in use

Full particulars and instructions from :

THE TIMBER FIREPROOFING CO., LTD., MARKET BOSWORTH

Sole Proprietors and Operators of the OXYLENE (Regd) Process **NUNEATON**







UNISTUC

LIQUID STONE

A durable solidifying process for direct application to Concrete, Cement, Stone, Brickwork, Asbestos-Cement and similar surfaces.

FOR EXTERIOR AND INTERIOR USE

Specified by Ministry of Works, Air Ministry, Government Depts. and Public bodies.

PROTECTIVE AND DECORATIVE

THE UNITED PAINT COMPANY LIMITED

Makers of Paints, Enamels, Varnishes and Distempers

15, ST. HELEN'S PLACE · LONDON · E.C.3.
Telephone : LONDON WALL 4426-7-8-9

And at: 15, Tithebarn Street, **Liverpool, 3.** Maritime Buildings, **Newcastle-on-Tyne.**
71, James Street, **Cardiff.** Works: Stratford, London and Lowestoft

YE

D

yne.

BASILDON VANGE PRIMARY SCHOOL, ESSEX

One of the many modern schools being constructed in prefabricated timber

560 Place Infant & Junior School
for Essex County Council.

Architect:
H. Conolly, F.R.I.B.A., *County Architect.*

Started April, 1953:
Completion due December, 1953.

Contractor:
Hosking & Son (Essex) Ltd.

System:
Medway Mark IV.



MEDWAY BUILDINGS AND SUPPLIES LTD., 1 PHOENIX WHARF, ROCHESTER, KENT. *Tel. Strood* 7521

182-103

QDA—spans up to 9′ 9″

QDB—spans up to 12′ 6″

QDS—spans up to 11′ 0″

the new

ROBERTSON

Q DECK

The new types of Robertson Q-Deck now available meet the demand for a well-insulated, lightweight roof construction on flat or average slopes. The Robertson 'Top Speed' method of fastening and Robertson Waterproofing combine to provide rapidly erected roofing ideal for many industrial and administrative buildings. Available with ribbed or flat soffit. Robertson Q-Deck is fully described in booklet Q.D.1. obtainable on request.



ROBERTSON THAIN LTD

ELLESMERE PORT, WIRRAL, CHESHIRE

Sales Offices:
LONDON: GLASGOW · BELFAST . BIRMINGHAM
NEWCASTLE · LIVERPOOL · SHEFFIELD · CARDIFF
MANCHESTER · EXMOUTH
Agents in most countries throughout the World.

MANUFACTURERS TO HER MAJESTY
THE LATE QUEEN CHARLOTTE.

AND BY APPOINTMENT TO HIS MAJESTY
THE LATE KING GEORGE V.

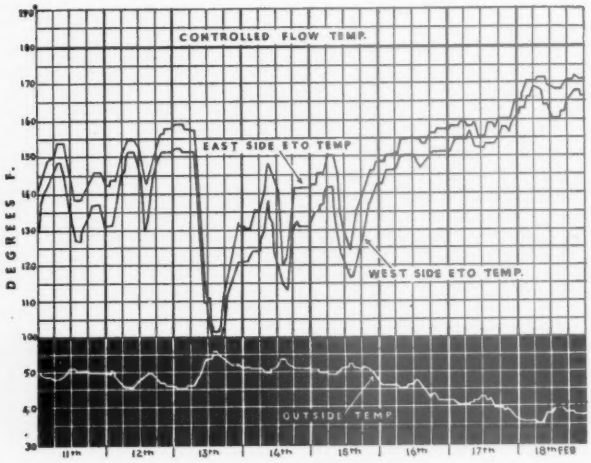
We have faithfully served the Paint Industry for 181 years and I honestly consider Manderlac Enamel to be our greatest contribution.

Geoffrey Mander

Chairman.

MANDER BROTHERS LIMITED
WOLVERHAMPTON

Manufacturers of Paints and Varnishes since 1773



Recorded during eight days in February at one of London's most prominent buildings, where two 'E.T.O.' Controllers serve east and west sides. The upper curves show how closely flow tempe ature responds to the outdoor temperature curve (solid portion).



ADVANCE CONTROL OF TEMPERATURE ON H.W. HEATING SYSTEMS

The Sarco E.T.O. is a self-contained fully automatic control for accelerated hot-water heating systems. Variations in the temperature of flow to the heating system are made directly *in anticipation of the effect indoors of any external temperature change.*

It can be designed to suit heat emission curves appropriate to the type of heating surface.

It can, after installation, be corrected to allow for any variation between design and site conditions.

A boiler is subjected to less strain, and corrosion troubles avoided, because the boiler can be operated at a constant water temperature.

The E.T.O. is non-electric, entirely self-operating and direct-acting. It has *packless* glands which eliminate the trouble so commonly experienced with ordinary glands.

Reasonable in cost, easy to install, and easy on maintenance.

For more information, please send the request slip to Spirax-Sarco Ltd., Cheltenham, Glos.

SARCO E·T·O CONTROLLER

(NON-ELECTRIC)

REQUEST SLIP FOR ADDITIONAL INFORMATION

NAME:

ADDRESS:

SARCO CONTROL

AJ. 354



Langdon Crescent School, East Ham (Kitchen & Dining Room Block) Architect: J. W. Taylor, F.R.I.B.A.

School walls must stand up to hard wear!

THERE are many other considerations too—economy in initial outlay, maintenance costs and hygiene. GLAZEMENT Cement Glaze is probably the most economical and decorative surface treatment available to-day. Its unbroken surface offers no cracks or crevices for dirt or germs and when stippled or spotted offers no enticement to wall scribblers. It is easily washed down and neither laboratory fumes nor splashes affect the non-stainable glazed surface. That is why Langdon Crescent Secondary School, the largest school undertaking in Europe, solved their wall-surface problems in corridors, ablutions, lavatories, showers, kitchen and dining rooms, etc., by applying

7,000 yards of

GLAZEMENT

CEMENT GLAZE WALL FINISHES

Write for illustrated "Glazement" brochure giving full information on surface treatment and costs.

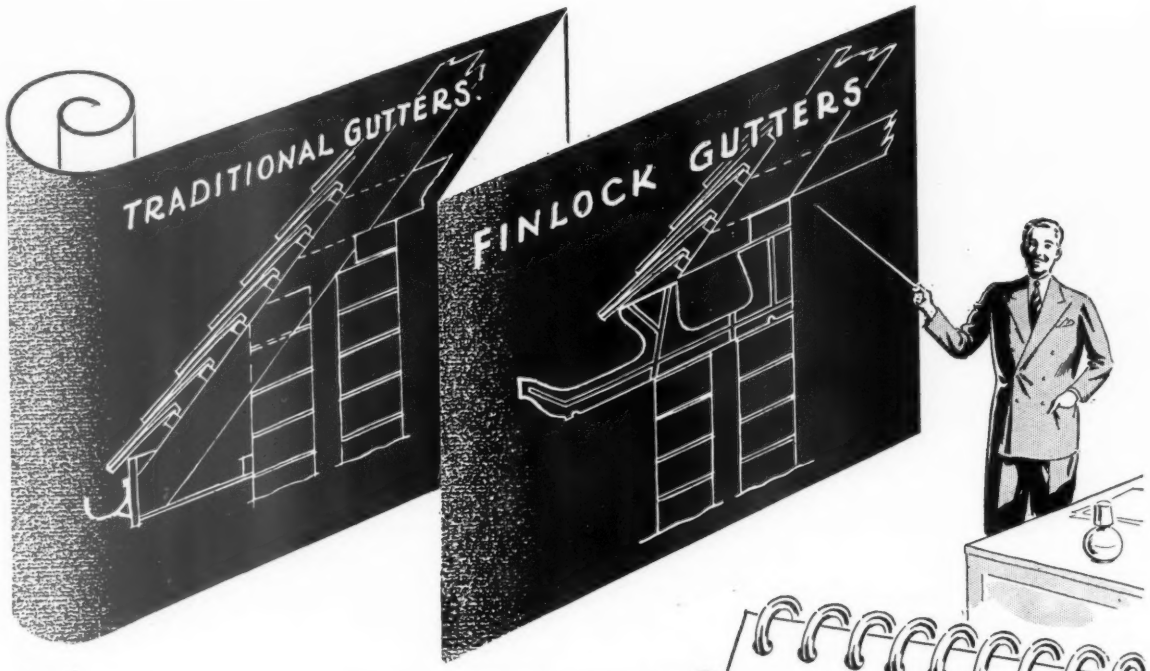
ROBB'S CEMENT ENAMEL FINISHES LTD.
245 VAUXHALL BRIDGE ROAD, LONDON, S.W.1.
Telephone: TATe Gallery 0091/2. *Telegrams:* Glazement Souwest London.

THE BUILDING CENTRE 26 STORE STREET W.C.1
SEE OUR EXHIBIT

SCOTLAND:
W. C. Simpson & Son Ltd.,
30-42 Haymarket, Surrey Place,
Edinburgh. *Edinburgh* 62006.

NORTHERN IRELAND:
Concrete Industries Ltd.,
107a Shore Road, Belfast.
Belfast 76681.

EXTERIOR · INTERIOR



"FINLOCK SAVES MONEY!"

The figures shown indicate the savings effected by the use of Finlock 'G' Type Gutter Blocks, as opposed to Traditional gutters, on one pair of hipped end houses, 40ft. by 25ft., Pitch 40°.

A full analysis of omissions of labour and materials per 100ft. run can be supplied on request and, by reduction of number of outlets —subsequent drainage and the use of Finlock Gutters to form the lintols, additional savings to those quoted can be achieved.

Fully descriptive literature is available on application to Head Office and the nation-wide Finlock service is at your disposal to ensure speedy and accurate deliveries and ***free*** *expert assistance on site.*

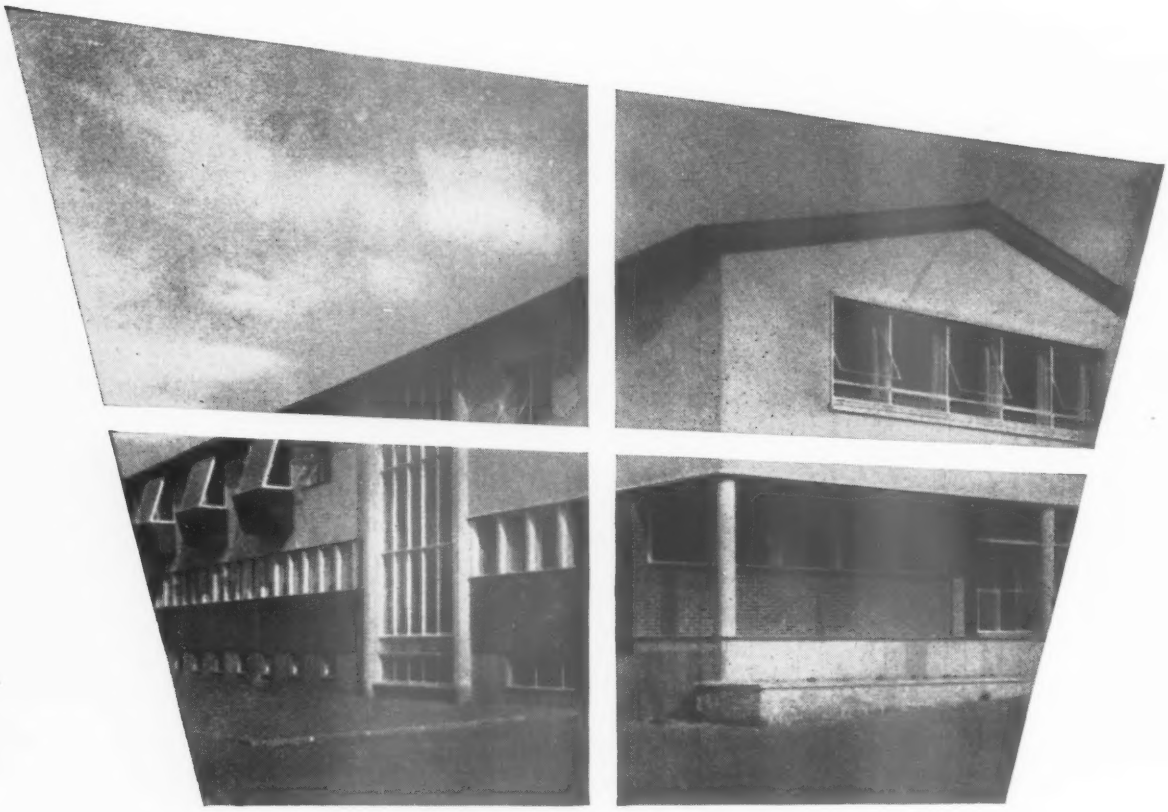




FINLOCK GUTTERS LIMITED
Head Office: **FINLOCK HOUSE, 25 FRANT ROAD, TUNBRIDGE WELLS, KENT. TunbridgeWells3396-9**

8 works for speedy deliveries to any part of Gt. Britain · Crewkerne, Somerset · Leeds, Yorkshire · Edinburgh, Scotland · Cwmbran, South Wales · Royston, Herts · Tunbridge Wells, Kent · Belfast, Northern Ireland · Wakefield, Yorkshire.

DHB



Williams & Williams did the windows

. . . in the remarkable Sighthill Health Centre, Edinburgh (Designers: Architects of the Dept. of Health for Scotland. Lately Chief Architect R. Gardner-Medwin, B. Arch., F.R.I.B.A., M.T.P.I., F.R.I.A.S.) Among the interesting window designs are the double glazed bay windows. (Left centre in the illustration.) There is a dentist's chair in each bay and the windows give almost all-round daylight while keeping out the cold. In another recent contract, Montrose House, in Glasgow (Senior Architect: Stewart Sim, D.A. Edin., F.R.I.A.S., F.S.A. Scotland.) 19,000 sq. ft. of external metal windows were supplied and fixed by Williams & Williams.

METAL WINDOWS

WILLIAMS & WILLIAMS

DO YOU KNOW YOUR NEAREST AREA OFFICE? *You'll find Williams and Williams in London, South London, Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle-upon-Tyne, Newmarket, Nottingham, Reading, Sheffield, Southampton and Tunbridge Wells. Each office arranges quick delivery of metal windows, gives estimates, details, and fixing teams on site. Head Office: Reliance Works, Chester.*

Members of the Metal Window Manufacturers' Association

Four Concrete Answers



TO YOUR **WATERPROOFING** PROBLEMS

There is a Sealocrete Product for every kind of waterproofing problem. Consult our Technical Department. Our business is based on satisfied customers and service after sales.

Sealocrete Double Strength Premix Solution and Sealocrete Corrugated Bitumised Waterbar (Prov. Patent) used in the construction of the basement of a block of offices for Messrs. Thomas Hedley and Co., Ltd., Newcastle-on-Tyne. Architect: S. Burn, Esq. Contractors: Stephen Easten, Ltd., Newcastle-on-Tyne.



TO YOUR **FLOORING** PROBLEMS

The very extensive use of Sealocrete Products for all types of flooring is your guarantee of satisfaction whether your problem is decorative, industrial or domestic.

New Esso Refinery, Fawley, for Esso Petroleum Co., Ltd. Sealocrete Metallic Hardener used in concrete floor of the Central Maintenance Building. Contractors: Messrs. Foster Wheeler, Ltd.



TO YOUR **COLOURING** PROBLEMS

There are Sealocrete Products for both the integral colouring of concrete and the colourful decorating of most building materials.

C.I.E. Garage—Donnybrook, Eire. Sealantone Liquid Colours for Cement incorporated in external dashing of roof bays, and also in main wall, gables and boundary walls. Architect: Michael Scott, Esq., F.R.I.A.I., 19, Merrion Square, Dublin, Eire Contractors: H. C. McNally and Co., Ltd., Builders and Civil Engineering Contractors, Dublin, Eire.



TO YOUR **MAINTENANCE** PROBLEMS

Sealocrete Products, wide range of manufactures includes products specially produced to solve maintenance problems of every description.

Burnholme Hospital, Stannington. Sealantex Liquid Stone Compound applied to walls and Sealocrete Liquid Stain on asbestos cement roofing. Architects: Messrs. J. Walter Hanson and Sons, Newcastle. Painting Contractors: Messrs. Reid Bros., Newcastle.

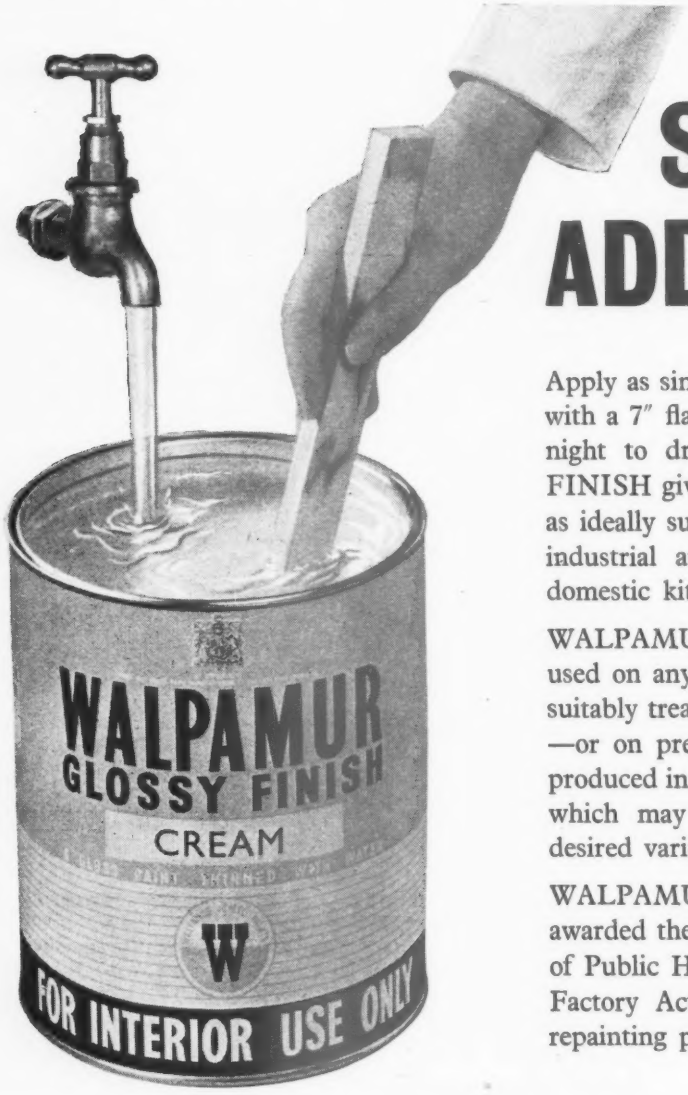
B.I.F. BIRMINGHAM · STAND B614

SEALOCRETE PRODUCTS LTD

SEALOCRETE PRODUCTS
USED ALL OVER THE WORLD

ATLANTIC WORKS · HYTHE ROAD · LONDON N.W.10

Telephone: LADbroke 0015-6-7. Grams and Cables: SEALOCRETE, WESPHONE, LONDON



SIMPLY ADD WATER!

Apply as simply and quickly as a water paint, with a 7″ flat brush or spray gun, leave overnight to dry and WALPAMUR GLOSSY FINISH gives a tough, durable enamel finish as ideally suited for the interior decoration of industrial and agricultural buildings as for domestic kitchens and bathrooms.

WALPAMUR GLOSSY FINISH can be used on any new, dry interior surface—when suitably treated with UNIVERSAL PRIMER —or on previously decorated surfaces and is produced in a range of eighteen pleasing shades which may be intermixed to produce any desired variation of colour.

WALPAMUR GLOSSY FINISH has been awarded the Certificate of the Royal Institute of Public Health and Hygiene and meets the Factory Act requirements for a seven-years repainting period.

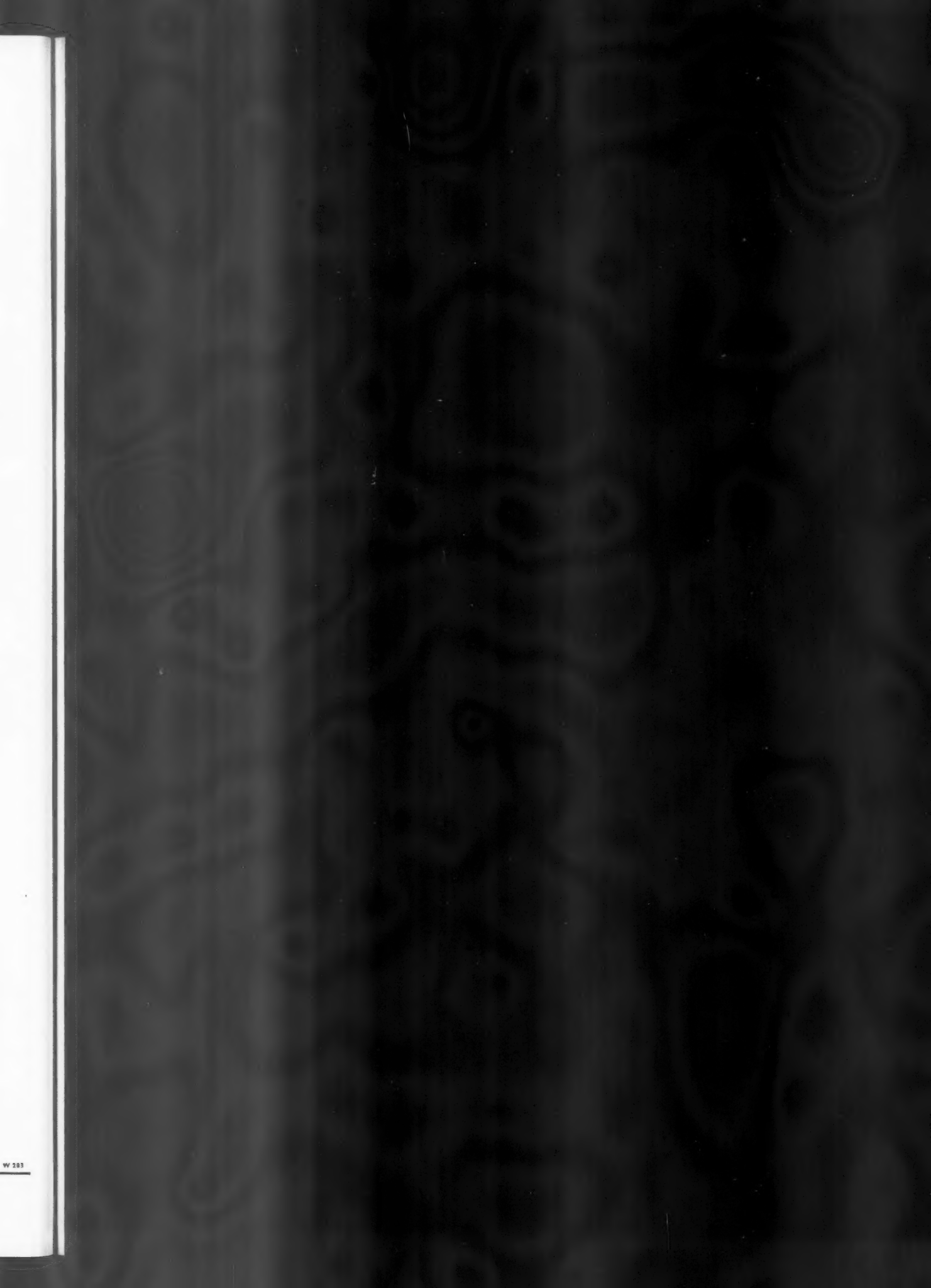
WALPAMUR
Glossy Finish

- **Needs only the addition of water to make it ready for use.**
- **Is as easy and speedy to apply as a water paint or distemper.**
- **Dries hard overnight with a brilliant gloss which is unaffected by repeated washing.**
- **Suitable for all types of interior surfaces—wood, plaster, stone, brick or metal.**
- **Complies with the Factory Act requirements for a 7-years' repainting period, thus eliminating frequent and costly lime-washing.**
- **Supplied in a range of 18 pleasing shades, all intermixable**
- **Splashes removed with a damp cloth and brushes easily cleaned with warm, soapy water, after a preliminary rinse in cold water.**

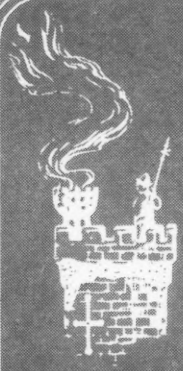
BY APPOINTMENT
PAINT AND WATER PAINT MANUFACTURERS TO THE LATE KING GEORGE VI

THE WALPAMUR CO LTD · DARWEN & LONDON

W 283







BEACON

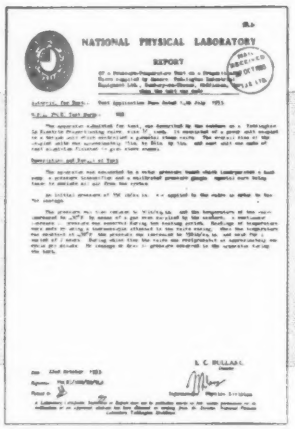
ALUMINIUM DOUBLE-HUNG SASHES



ABBOTSFIELD SCHOOL, HILLINGDON.
Architect: C. G. Stillman, F.R.I.B.A.
Architect to the Middlesex County Council

JOHN THOMPSON BEACON WINDOWS
LIMITED
Ettingshall, Wolverhampton & Imperial House, Kingsway, London, W.C.2
Telephone BILSTON 41121 *Telephone* TEMPLE BAR 3216

Tested by the NATIONAL PHYSICAL LABORATORY

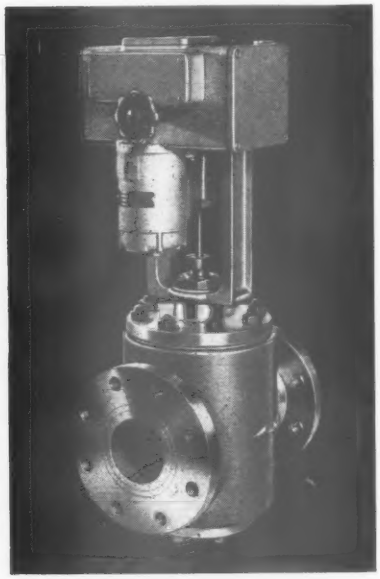

NATIONAL PHYSICAL LABORATORY

REPORT

used by the **NATIONAL PHYSICAL LABORATORY**

and on these other notable installations.

ROYAL YACHT "BRITANNIA"
S.S. "GOTHIC"
T.S.S. "ORONSAY"
HOUSE OF COMMONS
NATIONAL GALLERY
DULWICH PICTURE GALLERY
BRITISH MUSEUM
NATURAL HISTORY MUSEUM
NORWICH MUSEUM
EUSTON STATION
USKMOUTH GENERATING STATION
BRIGHTON "B" POWER STATION
ROYAL NAVAL ENGINEERING COLLEGE
MILITARY COLLEGE OF SCIENCE
EXETER UNIVERSITY
MINISTRY OF SUPPLY,
ATOMIC ENERGY RESEARCH ESTABLISHMENT
BRITISH OVERSEAS AIRWAYS
LONDON TRANSPORT EXECUTIVE
LONDON AIRPORT
ROYAL AIRCRAFT ESTABLISHMENT



Teddington

TYPE ZA

ELECTRIC PROPORTIONING EQUIPMENT

TEDDINGTON INDUSTRIAL EQUIPMENT LTD.
Sunbury-on-Thames, Middlesex
Telephone: Sunbury-on-Thames 600 (9 lines)



"Inferno my foot!" *declared Dante*

"There's nothing everlasting about these fires. I don't know what my old flame, Beatrice, would think of it. What's needed is an oil-fired furnace —and the technical advice and guidance of Shell-Mex and B.P. Ltd. Then we could really turn on the heat, and control it accurately, too."

CONTROLLED HEAT WITH OIL FUEL

SHELL

INDUSTRIAL SERVICE

BP

10 COLOURS!

ONLY WITH Don STAIRTREADS *COLOURFILLED ALUMINIUM STAIRTREADS*

do you get...

SO WIDE A RANGE OF COLOURS

The range of ten colours—BROWN · SILVER · GREEN · GOLD · BLUE · MAROON · BLACK · WHITE · PINK & RED—offers to architects, flooring specialists and interior decorators a choice of colours which will harmonise with a wide variety of colour schemes.

SO WIDE A CHOICE OF NOSINGS

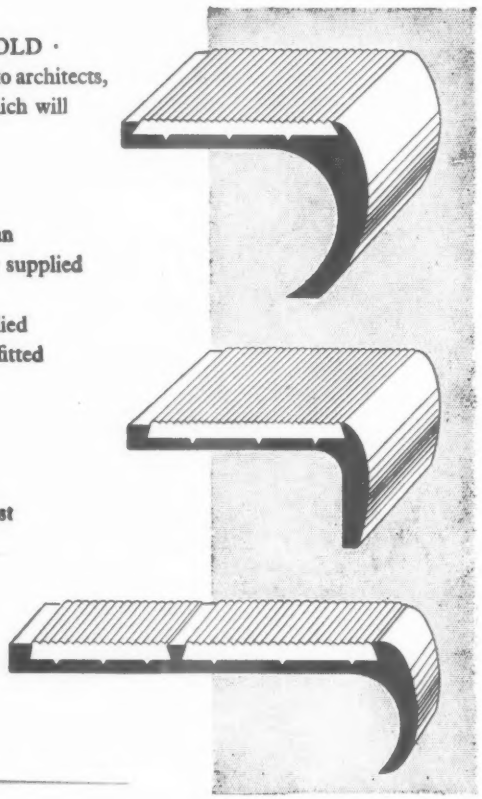
From a range of some nineteen different nosings—all sections can be shaped to your special requirements. Curved sections can be supplied with the nosing inside, or outside, of the required radius.
The bends and curves to which "Don" stairtreads can be supplied are limitless. Wood, concrete or iron stairs, new or old can be fitted with "Don" stairtreads—colour or fabric filled.

SUCH A LONG LIFE

There is no upkeep expense with "Don" stairtreads. Easy to clean they give many years of colourful service under the heaviest traffic. All "Don" stairtreads remain "colour-constant" throughout their life.

SUCH COMPLETE SAFETY

Throughout their life "Don" stairtreads provide a safe and confident foothold. Being waterproof and non-skid they give a safe tread under all conditions.



SMALL & PARKES S&P PRODUCT

Can be inspected and discussed at :—
(Towns & Telephone Nos. of Depots)
BELFAST 25103 : **BIRMINGHAM 5** Midland 4659 : **BLACKBURN** 6581 : **BRISTOL** 27214 : **CARDIFF** 27026
CARLISLE 21589 : **CHESTER** 21280 : **COVENTRY** 64914 : **EDINBURGH 1** Central 4234 : **EXETER** 3813
GLASGOW C.2 Central 4595 : **HULL** Central 52072 : **IPSWICH** 3023 : **LEEDS 3** 20664/5 : **LEYTON** Leytonstone 6068
LIVERPOOL 1 Royal 1251 & 5202 : **MANCHESTER 3** Blackfriars 0596 : **NEWCASTLE-ON-TYNE 2** 27142 & 27942
NOTTINGHAM 43646 : **SHEFFIELD 1** 25529 : **SOUTHAMPTON** 71276 : **STOKE-ON-TRENT** 44021 : **WIMBLEDON** 4248/9
Republic of Ireland : **DUBLIN** 35 Westland Row, 66597

Write for Brochure to: **SMALL & PARKES LTD · MANCHESTER 9**

LONDON: 76 VICTORIA STREET, S·W·1

WOOD WINDOWS -

of course!

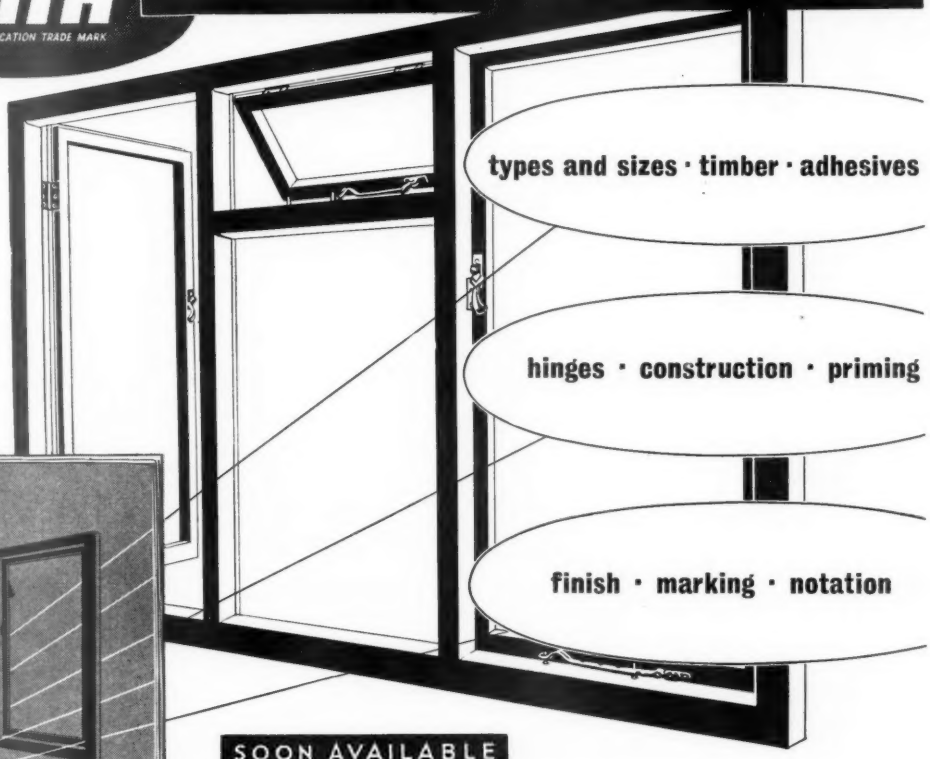
For a clear picture of all the facts concerning

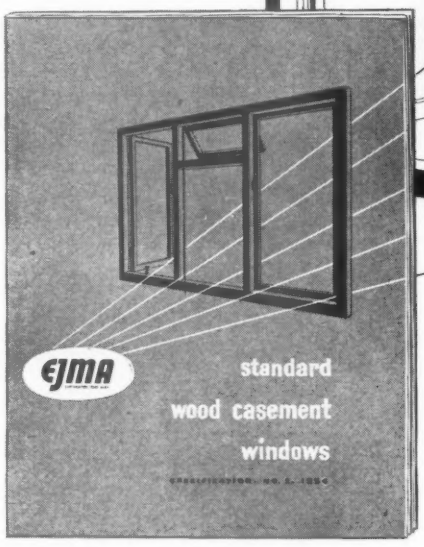
EJMA STANDARD WOOD CASEMENT WINDOWS

you will need the new comprehensive

EJMA CERTIFICATION TRADE MARK

SPECIFICATION No. 2 · 1954





SOON AVAILABLE

for every architect and builder, this new EJMA Specification is planned to save time presenting in convenient tabulated form everything necessary to know when specifying EJMA Standard Wood Casement Windows—the windows which guarantee joinery excellence to the building industry and its clients.

Apply for copies of the Specification to the Secretary

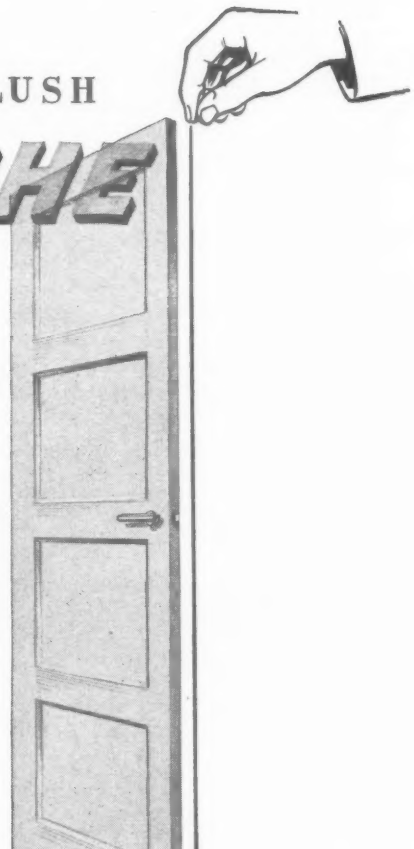
The English Joinery Manufacturers' Association (Incorporated)

SACKVILLE HOUSE · 40 PICCADILLY · LONDON · W·1 · REGENT 4448

The LEADERFLUSH

OBECHE

GRADE I PANEL DOOR



NEVER TWISTS

NO GRAIN MARKS OR KNOTS

AN IDEAL PAINTING SURFACE

NO MAINTENANCE COSTS

FULL LEADERFLUSH GUARANTEE

Available in small or large quantities at the keenest prices in the country

WRITE NOW FOR QUOTATIONS

LEADERFLUSH LTD.

Britain's finest Grade I Panel Door

LEADERFLUSH LTD TROWELL . NOTTINGHAM

Telephone : Ilkeston 623 (3 lines)

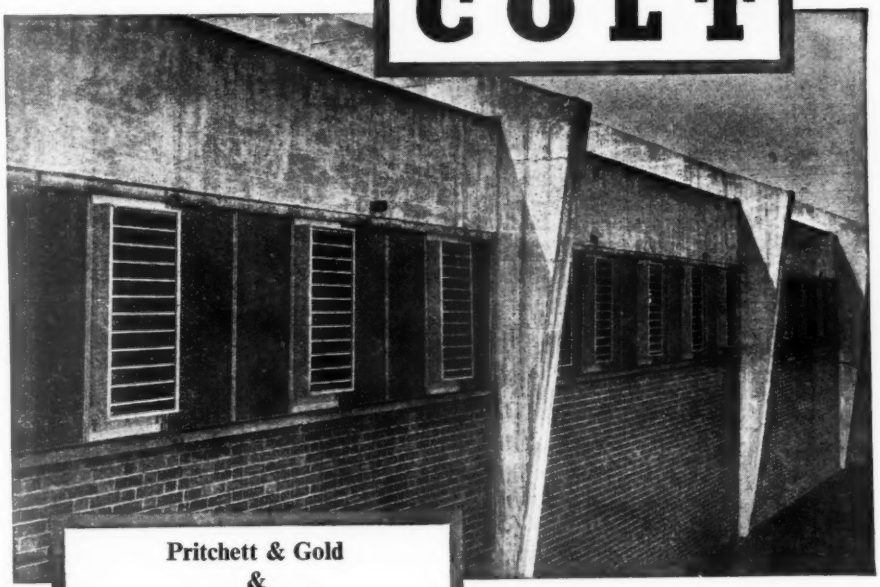
Telegrams : "LEADAFLUSH ILKESTON"

COGENT

SOME OF THE ARCHITECTS WHO HAVE SPECIFIED COLT VENTILATION

Bedingfield & Grundy, F./L.R.I.B.A.
Alec F. French, F.R.I.B.A.
Victor Kerr & Colbourn, F./F.R.I.B.A.
William Mollison, F.R.I.B.A.
Norman & Dawbarn, F.R.I.B.A.
C. H. Errington, L.R.I.B.A.
Hind & Brown, L./A.R.I.B.A.
James W. Mackintosh, L.R.I.B.A.
Sainsbury & Chamberlain, L./F.R.I.B.A.
Wright & Renny, F.R.I.C.S., M.INST.R.A.
Brownrigg & Turner, A./A.R.I.B.A.
Fairbrother, Hall & Hedges, L./A.R.I.B.A.
Francis J. Meeson, A.R.I.B.A.
Thomson, McCrea & Sanders, F./A.R.I.B.A.
Harry Webster, L.R.I.B.A.
Donald D. Jack, F.R.I.B.A.
Kitson, Parish, Ledgard & Pyman, F./F.R.I.B.A.
Kenneth Nealon, A.R.I.B.A., A.R.I.C.S.
W. H. Watkins, Grey & Partners, F./F.R.I.B.A.
A. L. Tamkin, A.R.I.B.A.
T. F. O. Rippingham, A.R.I.B.A.
W. G. Davies, F.R.I.B.A.
Catley & Brentnall, A.R.I.B.A.
Alan W. Pipe & Sons, L.R.I.B.A.
J. Edward Tyrrell, F.R.I.B.A. *Gosport Borough Architect*
Cordingley & McIntyre, F./A.R.I.B.A.
Gordon Griffiths, F.R.I.B.A., A.M.T.P.I.
Edward D. Mills, F.R.I.B.A., F.R.S.A.
Walker & Collinson, A.I.A.A., A.I.A.S.
B. Ivor Day, F.R.I.B.A.

THERE ARE OVER 5,000 MAJOR INDUSTRIAL ORGANISATIONS WITH NATURAL VENTILATION PLANNED BY COLT



Pritchett & Gold & E.P.S. Co. Ltd.

The new Porvic Shop at Pritchett & Gold & E.P.S. Co. Ltd., has COLT Clear-Opening Ventilators incorporated in the vertical glazing. This new building is one of some twenty-five separate contracts carried out for Pritchett & Gold and E.P.S. Ltd., since 1943.

COLT'S wide experience in the ventilation of all types of buildings throughout industry is at your disposal. Why not make use of it?

FREE MANUAL *with full specifications of the wide range of Colt Ventilators, available on request from Dept. A.29/170*

Take advantage of experience gained in every type of Industry — call in COLT to help solve your ventilation problems.

COLT

THE SPECIALISTS IN PLANNED NATURAL

VENTILATION

COLT VENTILATION LTD · SURBITON · SURREY · ELMbridge 6511-5

Also at: Birmingham, Bradford, Bridgend (Glam.), Bristol, Dublin, Edinburgh, Liverpool, London, Manchester, Newcastle-on-Tyne, Sheffield and Warwick. A.29

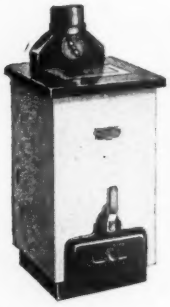
The GLOW-WORM **A25**

FULLY AUTOMATIC BOILER

Hot Water for Domestic Use and Radiators

THE GLOW-WORM A25 Fully Automatic Boiler has a *larger* fuel capacity. On a maximum of TWO FUELLINGS a day it gives 70 sq. ft. of heating pipes and radiators throughout the day and night with minimum variation of temperature and 50 gallons of hot water, or an average of 20 gallons of hot water per hour both day and night, or 82 square feet of heating pipes and radiators, or any combination of the above for special purposes. Where small quantities of hot water are required, the GLOW-WORM A25 burns as economically as the smallest boiler. Water temperature is controlled by a turn of the knob—no dampers to operate.

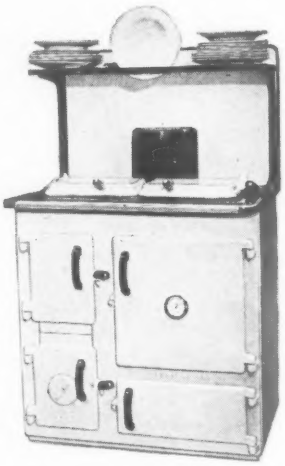


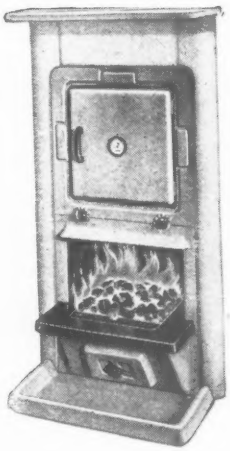


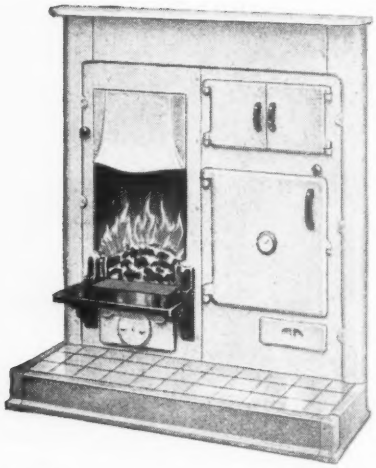
B33 and B22 BOILERS

Waterway encircles fire and gives high output per sq. ft. of heating surface. Bright clean finish, minimum cleaning. B33 has steel water jacket, B22 cast iron.

Please send for individual leaflet giving full details of any of these GLOW-WORM solid fuel-saving appliances.







The CROMFORD COOKER

The perfect all-purpose stove for cooking, water heating, space heating. Burns any solid fuel and can be regulated for overnight slow burning.

The MILFORD Oven-over-Fire Combination Grate

For space heating, water heating, cooking: boiling space for five saucepans. Flue cleaning without removing oven.

The DERWENT Combination Grate

One economical fire provides heat for large oven, fast-boiling plate with extension hob and hot closet. Ample domestic hot water and controlled room warmth. Overnight burning.

GLOW-WORM

GLOW-WORM BOILERS LTD. · DERWENT FOUNDRY · MILFORD · Nr. DERBY

London Showrooms: 22-24 BUCKINGHAM PALACE ROAD, S.W.1. *Tel. Victoria 7093*

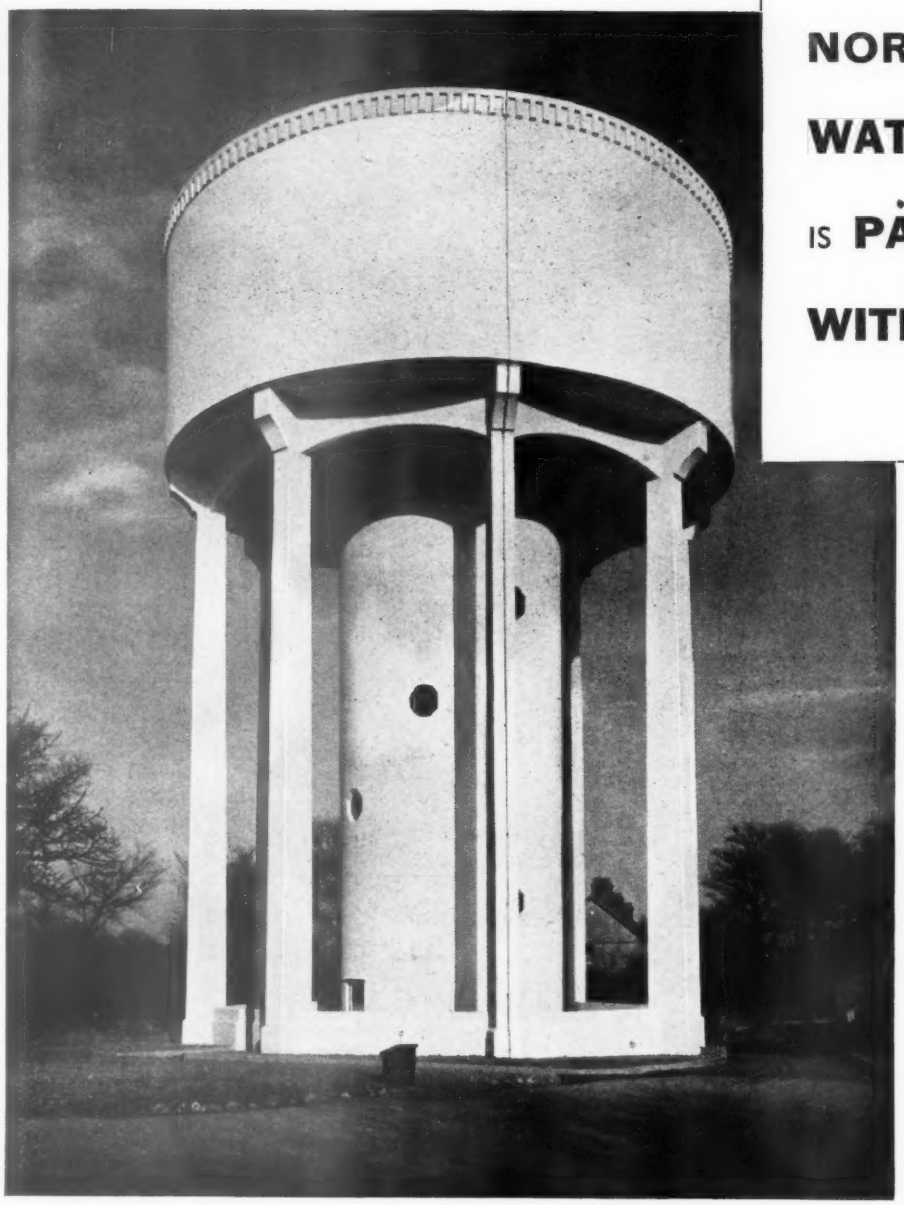
BPC

THE EXTERIOR OF THE

NORTH WALSHAM WATER TOWER

IS **PAINTED**

WITH STONE



SILEXINE STONE PAINT



Stone, finely ground, is the basis of Silexine Stone Paint. With Silexine you literally *paint with stone*—hence its outstanding protective quality. Silexine Stone Paint is supplied in twelve decorative colours, or in special shades to order. It can be applied to concrete, stucco, brick, plaster, asbestos, cement, etc.

SEE OUR EXHIBIT AT THE LONDON BUILDING CENTRE.

SILEXINE PAINTS LIMITED · RICHFORD STREET · LONDON · W.6 *Shepherds Bush 4461*

Specifications and notes on surface preparation, together with a report on tests carried out by the Building Research Station, are given in a booklet sent free on application. Information regarding other Silexine products, particularly S.P.E.C. (Silexine Plastic Emulsion Coating) a durable satin-like finish for interior walls, is also freely available.

PAINT WITH STONE



Architects: Val Myer (Val Myer & Watson Hart) in association with M. T. Tudsbery, the Civil Engineer to the B.B.C.

Ford & Walton's famous buildings—No. 1 in a series

AMONGST the many famous buildings built by Ford & Walton Ltd., Broadcasting House, completed in 1932, is a fine example of the contemporary architecture of its time.

The advice and services of Ford & Walton Ltd., are always available to anyone considering the building of factories and flats, shops and offices or any construction project. Finance is provided in suitable circumstances.

Ford & Walton Ltd

ESTABLISHED OVER HALF A CENTURY

Offices: 3 Buckingham Palace Gardens, Westminster, London, S.W.1. *SLOane 0630/0639.* Works: Warton Rd., Stratford, London, E.15



THIS BOOKLET

should be in every Architect's files

Contents include:

LOADING TEST REPORT

An official test carried out by R. H. HARRY STANGER, A.M.I.C.E. is reproduced with diagrams and proves the amazing strength of METSEC NAILABLE OPEN WEB STEEL JOISTS.

METHODS OF FIXING

The simplicity with which METSEC Joists are installed is clearly shown with both diagrams and photographic illustrations.

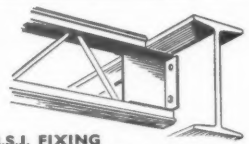
USEFUL "BLUE-PRINT"

The centre-pages illustrate the 6 standard Joist profiles with dimensions, together with respective loading tables and other useful technical data - designed so that it can be pinned up for quick, easy reference.

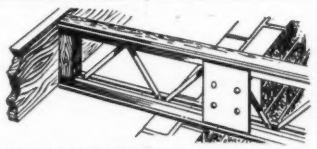
Have you had YOUR copy

—if not, please write

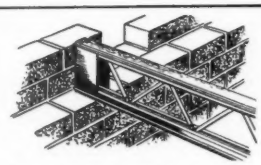
METSEC NAILABLE OPEN WEB STEEL JOISTS are made from Cold Roll Formed Sections, fabricated and assembled by welding. The exceptional strength, rigidity and lightness of this modern building product saves time, trouble and timber and lends itself to the latest trends in design for Schools, Flats, Houses, etc. The open web design permits unobstructed passage of pipes, conduit, lighting installations, etc.



R.S.J. FIXING
A connection used for attachment to steelwork. A flush face can be maintained over the beams and supports.



OVERHANG FIXING
Note plate welded to beam which is fixed into wall and run through to provide connection for both "facia" and/or soffit boards.



WALL END FIXING
Note the pocket which is filled with concrete, ensuring a solid connection.

★ *A few examples of fixing Methods from the METSEC Nailable Open Web Joists Booklet - a copy of which will gladly be provided on request.*

A TI COMPANY

METAL SECTIONS LIMITED, OLDBURY, BIRMINGHAM · Phone: BROadwell 1541



What follows when you plan for linoleum? You enlist a unique decorative ally. Linoleum's great variety of colour and pattern permit the widest possible freedom of architectural and artistic expression. You plan with a financial eye to the future. Not only is linoleum low in first cost but — because of its resistance to wear — depreciation over the years is virtually negligible. You plan for comfort and easy maintenance. Linoleum is always quiet and kind to the tread—always quick to respond to a quick 'clean down'.

Nothing takes the place of LINOLEUM



For good looks and long life plan for

LINOLEUM

THELMA

"THELMA" stands for The Linoleum Manufacturers' Association, 127 Victoria Street, London, S.W.1.
For further information write to the Association or to any of the following members :—
BARRY OSTLERE & SHEPHERD LTD., KIRKCALDY · DUNDEE LINOLEUM CO. LTD., DUNDEE · LINOLEUM MANUFACTURING CO. LTD., 6 OLD BAILEY, E.C.4 · MICHAEL NAIRN & CO. LTD., KIRKCALDY · NORTH BRITISH LINOLEUM CO. LTD., DUNDEE SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LTD., FALKLAND, FIFE JAS. WILLIAMSON & SON LTD., LANCASTER

AJ

THE ARCHITECTS' JOURNAL

EDITORIAL BOARD: (1) *Consulting Editor*, F. R. Yerbury, O.B.E., Hon. A.R.I.B.A. (2) *Town Planning Editor*, Dr. Thomas Sharp, L.R.I.B.A., P.P.T.P.I. (3) *House Editor*, J. M. Richards, A.R.I.B.A. (4) *Executive Editor*, D. A. C. A. Boyne. (5) *Technical Editor*, R. Fitzmaurice, B.SC., M.I.C.E., Hon. A.R.I.B.A. (6) *Editor Information Sheets*, Cotterell Butler, A.R.I.B.A. (7) *Editorial Director*, H. de C. Hastings.

GUEST EDITOR (CONVERSIONS): (8) Felix Walter, F.R.I.B.A.

SPECIALIST EDITORS*: (9) Planning (10) Practice (11) Surveying and Specification (12) Materials (13) General Construction (14) Structural Engineering (15) Sound Insulation and Acoustics (16) Heating and Ventilation (17) Lighting (18) Sanitation (19) Legal.

ASSISTANT EDITORS: (20) *Chief Assistant Editor*, Kenneth J. Robinson, (21) *Assistant Editor* (Buildings), L. F. R. Jones, (22) *Assistant Editor* (Information Sheets), Lance Wright, A.R.I.B.A., (23) *Photographic Department*, H. de Burgh Galwey, W. J. Toomey (24) *Editorial Secretary*, Monica Craig.

* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

9, 11 & 13, Queen Anne's Gate, Westminster, London, S.W.1 Whitehall 0611

No. 3080 March 11, 1954 VOL. 119

Subscription rates: by post in the U.K. or abroad, £2 10s. 0d. per annum. Single copies, 1s.; post free, 1s. 3d. Special numbers are included in Subscriptions; single copies 2s. post free 2s, 3d. Back numbers more than 12 months old (when available), double price. Half yearly volumes can be bound complete with index in cloth cases for 25s. 0d.; carriage, 1s. extra.



AUGUSTE PERRET

Though one has realized for many years that it had to come sooner rather than later, the passing of Auguste Perret is in no way the less shocking for that. He was a giant figure, who towered above official neglect and the occasional spite of those who owed much to his inspiration and influence. He believed passionately in the future and in the beauty of the concrete frame, and has left an indelible mark on the architecture of this century. He has been *with*, rather than *of*, the Modern Movement, and although he had clearly little sympathy with some of the more vehement of his pupils, that does not make him a member of the reactionary camp. He had no official recognition in the twenties and thirties, and although he ran a free atelier at the Ecole des Beaux Arts, his pupils tell of having to leave it in order to obtain their diplomas. Official recognition was not granted him until the recent war, when he was almost in his seventies; it resulted, ultimately, in his being entrusted with the rebuilding of Le Havre—a project of building and town planning on a vast scale which he will now never see completed.

*

Auguste Perret's pupils speak of the careful and practical attitude to architecture which he taught, along with his firmly held doctrine of the concrete frame. His was the kind of mentality which attracted and formed disciples, and the unmistakable signs of that discipular body of architectural thought can be seen all over the world. Perret has a "school" in the classical sense of the word, as Michelangelo or William Kent had, and while historians may wrangle over his hidden influence in the work of Corb. and others, ordinary mortals will continually notice the work of his unmistakable disciples in places as far apart as the Witwatersrand, Tokio and the First Church of Christ Scientist, Tunbridge Wells.

SON ET LUMIERE

Now that the Tourist season is approaching and the French Government is presumably running over the wiring of the "Son et Lumière" schemes in preparation for another bumper year, could we perhaps discover whether MOW have any similar plans afoot for such monuments as Hampton Court, the Tower, or even the Law Courts? Some of you who may have seen Versailles and the Loire Chateaux under this dramatic treatment may not share ASTRAGAL's pleasure in the experience, but at any rate it seems to be something well worth trying. Indeed if you want to see a minor try-out you have only got to go up Regent Street on a Sunday and there is the spire of All Souls, Langham Place, flooded with light, and resonant with excerpts from "The Messiah." The total effect is magical . . . as if the tower itself has become incandescent and broken into song.

*

ASTRAGAL saw it last week, and after reassuring himself that it wasn't a faulty circuit in Broadcasting House (that ETU again), he learned that it was devised as a recorded prelude to evensong and an invitation to enter, and was proving a great success. Nash himself would surely have been delighted by the idea of such an extra dimension for his urban effects, and indeed the possibilities are as endless as they are exciting. Could it not be more seriously studied? Of course the risks of commercialism are great—sponsored architecture next! But risks are sometimes worth it, aren't they? Think of Cosi Fan Tutti in Park Crescent and The Overture to der Freischutz in Sussex Place!

DARKNESS AT NOON

Thanks to electrical trade disputes there was not much "son" and even less "lumière" at Olympia last week when the Ideal Home Exhibition opened, three acres short of its usual fourteen acre cargo of show-houses and grapefruit corers. Nevertheless, it opened on time and has put a brave face on its difficulties. Opinions as to the merits of this



THE MODERN WINDOW

fitted with friction hinges
has no stay to clutter the cill
never slams : will not corrode

NOW HAS BRONZE FITTINGS

HOPE'S

HENRY HOPE & SONS LTD., BIRMINGHAM & LONDON

"face" in the Grand Hall seem to be somewhat varied . . . after all, it's a long time since we saw columns in fibrous plaster and classical statues in niches . . . but perhaps it is unfair to pass any judgment when no special lighting is available. ASTRAGAL'S main objection is that the scheme covers the Addison Road clock. Anyway, you can look at the photograph on page 298 and make up your mind for yourself.

*

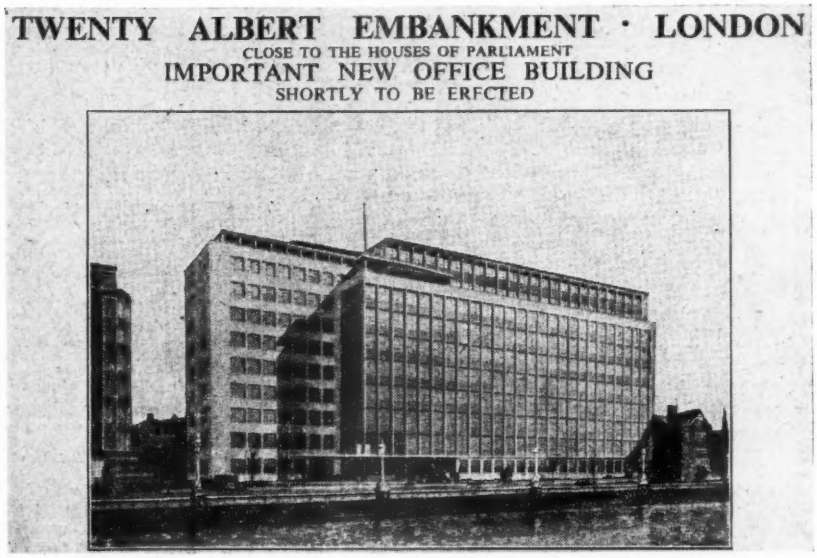
The electricians have made quite a difference to the rest of the show, and there is only one house, a triumph of site make-do-and-mend on somebody's part, which will presumably have, and deserve, the longest queue on record. Apart from that the whole of the small hall is boarded off, and you walk from the Hammersmith Road entrance down a very dull corridor till you come to the main hall, passing the solitary house on the way.

*

While I sympathize with anyone who wants higher wages, I doubt whether the electricians are going the right way about it. Everyone knows only too well the last-minute blackmail strikes that afflict all exhibitions, but in the past all was generally smoothed over in time for the opening. The more serious rot set in last September at the Shipping Exhibition, which had no lights for several days, and other shows have suffered since then.

*

Strike behaviour of this kind will kill exhibitions in the long run as surely as it nearly killed the film industry. I know at least two firms who have decided *never* to exhibit anywhere again—and I'm wondering what will happen to the BIF. Ideal Home exhibitors are planning various types of home-made lighting with accumulators and suchlike, but you can't really run exhibitions that way, and those electricians who—to put it on the lowest plane—look to the overtime of exhibition work to pay for their summer holidays may find themselves holidaying at home in a few years' time. This dispute has now been on for many weeks and there is no sign of negotiation or settlement. It seems to have little support from fellow building operatives and the general public is fed up. Can we have a report from the Ministry of Labour as to prospects?



In two recent issues (January 28 and March 4) we reproduced here advertisements from the back page of The Times *which showed sketches of proposed buildings for the City of London and the West End. Each time* ASTRAGAL *asked readers if the buildings matched up to Sir David Eccles's request for a standard of architecture "worthy of the new age." This week* ASTRAGAL *thinks it is only fair to reproduce yet another advertisement from* The Times*—one about which he feels far fewer misgivings. (Architects: T. P. Bennett and Son.)*

MR. PUNCH, A.R.I.B.A.

As you will see from the illustration below, Mr. Punch this week has taken up his T square, and after hastily scribbling a north point upon a rather eclectic looking elevation pinned to his board, he has laid about him well and truly inside the covers on the subject of interior decoration and Ideal Homes. Most of the hits go splendidly



Mr. Punch whose recent interest in architecture was commented on by ASTRAGAL *on February 11, took to the drawing-board himself on the cover of his issue for March 3. It seems that this beginner has wisely discarded an earlier design (beneath his chair) in case a puzzled client should notice the unusual siting of the house—first floor to the north and ground floor to the south. But, as you will see, he has made this elementary mistake again.*



Private Joke or Public Fancy?

Sir Hugh Casson's baroque grotto, which closes the main vista at the Ideal Home Exhibition this year, raises a problem which has troubled more than one mind in recent years. This crafty art-historical witticism—for that is how it must be regarded on one level—is intended for the delectation of a general public who have never been schooled in the learned pleasures of Edwardian Baroque, yet there can be no doubt that they will, in the great majority, enjoy it immensely. Because Edwardian Baroque is currently in favour in sophisticated architectural circles, the architect can design for his own pleasure, and the public's, with no greater dishonesty than to have his tongue slightly in his cheek. But fashions change—this year's architectural witticism will pass away like Edwardian trousers—and the new fashion may not suit the public fancy. What then? Does the tongue-in-the-cheek attitude degenerate into a cynical attitude of designing down to a despised public taste, or does the architectural wit resign in favour of the *pompier* designer who does this sort of thing with a straight face and untroubled conscience? (ASTRAGAL comments on the Ideal Home Exhibition, which remains open at Olympia until March 27, on page 295.)

home, ASTRAGAL'S favourite being a two-page illustrated spread (by Lobelia, Duchess of Axminster, by arrangement with H***e and G*rd*n) on a garage which "beginning life as an unwanted sitting-room ended as an individual and distinguished space in which the most luxurious limousine need not feel ashamed to park . . . exposing wealth of old brick and contorting walls in asbestos panelling," etc., etc. The fact that architecture and design is now a subject good enough for *Punch* is most encouraging—not least, one suspects, to the members of the RIBA Public Relations Committee.

CULTURE CORNER

Although the life of a working journalist leaves little time for improving the mind (you'd noticed?) there are times when ASTRAGAL wishes he could sit at the feet of one of our native pundits and get briefed on the state of scholarship. An accident recently made it possible for him to get to hear one of Mr. Summerson's lectures on the Architecture of the Reign of Elizabeth I, and it happened to be on that part of Elizabethan architecture that we all think we know a bit about, *viz.*, Ornament—you know, Flemish pattern-books and all that stuff.

*

Mr. Summerson, it appeared, had so far broken the rules of conventional piety as to actually compare some Elizabethan architecture with the pages of those celebrated pattern-books, and announced that Ditterling had no visible influence whatsoever, and that the works of Vredeman de Vries, where the Elizabethans did borrow from them, were usually altered out of all recognition, and for the better. What we now have to get used to, it seems, is a native school of Elizabethan ornament, created by the Court masons and plasterers at the fabulous Palace of Nonsuch, and by much the same team carrying on for the Lord Protector at Old Somerset House—and, once created, carrying on by its own momentum well into the sixteen-hundreds. So, while we bid a sad farewell to our old friends, the Flemish pattern-books, we now hail the wonderfully aptly named, when one comes to look at its creations, School of Nonsuch. New Elizabethans please copy, or something.

ASTRAGAL

POINTS FROM THIS ISSUE

The **Ideal Home Exhibition** pages 295 and 298

A Trade Union for Architects:

Editorial this page

What readers think pages 300 and 318

The RIBA's report page 301

Conversions: the first of a series of articles by the JOURNAL'S Guest Editor page 302

The Editors

FOR AND AGAINST A TRADE UNION

"ARE you in favour of having a trade union composed wholly or mainly of architects and approved by the RIBA?" This was the key question the RIBA Council asked all members and students last week. What should the answer be? We make no apology for returning to the subject of last week's leading article because we consider that this is one of the most far-reaching and fundamental issues on which the profession has had to express an opinion in recent years. What are the reasons for saying "No" to a trade union? They are: because a union is, or is liable to become, political; because a union will divide the profession into "masters and men"; because a union is unnecessary, as there are bodies already in existence to do the same work; because such an organization does not befit the behaviour and prestige expected from a "profession."

Take the first objection. There is no denying that trade unions have tended to become political bodies in the past, but the peak period of political consciousness in unionism is almost certainly over, and there are signs that a more tolerant attitude to differing political views is returning, together with an awareness that union responsibilities today go beyond wage-bargaining to fundamental questions of economics, productivity and training. There is no reason to suppose that an architects' union should be more backward in this than existing trade unions. In fact, rather the reverse. Without a sad heritage of bitterness and strife to sour relationships, a new architects' union might well set the pace in progressive co-operation between employer and employee.

Would a union split the profession in two? It would certainly mark more clearly, at first sight, those who were entirely self-employed from those who were in receipt of salaries. But the dividing line would not be purely a monetary one. On one side would be the provincial architect running his own small practice almost single-handed and thankful if he earned eight

or nine hundred pounds a year clear, and on the other, the architect to a public authority or large commercial concern collecting two or three thousand pounds a year and a comfortable pension at the end of his career. The "haves", as far as architects are concerned, need not necessarily be beyond the union pale.

Are there other organizations adequate for the purpose already in existence? NALGO, as its name states, is for architects in local government only. The ABT, which is certainly no stronger, if as strong, as NALGO, does not answer in its present form, at any rate. Its small architect membership does not count in its favour, and it includes engineers, surveyors and clerks of works in its ranks.

There remains the question: is it *infra dig.* to have a professional union? Need architects rely on collective bargaining? Is reasonableness, courtesy and faith in society's inherent good nature an effective substitute? Is the profession running the risk of putting material things before art and thereby losing its soul? Society today is not very sympathetic towards the unorganized. The recent history of teachers, scientists, nurses and clergymen (and, one might add, of professional classes generally, and pensioners) does not encourage belief in an effective mass social conscience. Material comfort—which is an effective partner, with ideals, for providing incentive to work—goes today to those who, in a highly-organized society, know what they deserve and how to get it.

The profession's prosperity, or at least the prosperity of that large proportion in salaried employment, depends upon the creation of an effective bargaining instrument. That instrument can only be created if *all* salaried architects, and students, form, and are unwaveringly loyal to, one professional negotiating body, or trade union, and no other. Just "another union" is not adequate.

An architects' union, allied to the RIBA, and designed to indulge in the hurly-burly of negotiation might well be more than just a salary-negotiating body. The role of a learned society often forces the RIBA to be silent, when a trade union could be effectively vocal. A full membership means an effective counter to the authority, public or private, which attempts to build with assistant architects rather than an architect principal. And might not such a body eventually negotiate the scale of fees for private architects even more effectively than the RIBA?

In considering this whole issue the RIBA is undertaking pioneer work and deserves every architect's congratulations. There is no clear-cut precedent to go by. But we would suggest that the organization of the architect in society, so that he gets a fair return for his frighteningly responsible task, is just one more administrative and technical hurdle to clear, like office and job organization and building technique, before the architect is really free to practice his art in the fullest meaning of the term.

The sensible answer to the RIBA's question "are you in favour of having a trade union . . ." is, we suggest, "Yes."

LETTERS

Colin Penn, A.R.I.B.A.
Douglas Wield, A.R.I.B.A.
C. A. V. Smith, A.R.I.B.A.
Douglas W. Richardson, A.R.I.B.A.
"Fourteen Architects"

Do Architects want a Trade Union?

SIR,—The main lines of your leader last week—that salaried architects need a negotiating body and that this body must be a trade union—deserve a hearty welcome.

A real trade union is not merely an organization which conforms to certain legal requirements, enabling it to be registered. It is a body of wage-earners who come together with the serious determination to further their economic interests and, because they are serious, link themselves for mutual support with other wage-earners. Only inexperience or irresponsibility could lightly contemplate a campaign in isolation.

A simple decision in favour of trade unionism will not build an effective trade union. It is difficult to win success and easy to get discouraged. That is why I do not attach much weight to your suggestion that the ABT—which is such a union as I have described—is out of court because architects do not join it. Those architects who do not join it (and many have joined) have yet to be convinced of the need for a union, and there is no short cut or alternative to securing this conviction.

The job of the ABT is difficult, and that of any union formed to compete with it would be doubly so. The ABT's experience gives it an invaluable advantage. But all who really want to bring about the much-needed improvement in salaries and conditions would deplore any competition between rival unions.

COLIN PENN.

London.

SIR,—The RIBA has at last come to the conclusion that it is incapable of looking after the interests of the majority of its members—salaried architectural assistants.

To create a professional association having the powers of a trade union might well be advantageous to these members, but to expect them to pay another subscription is absurd. Any subscription payable to such an organization should be inclusive: the RIBA's subscription of £4 4s. for qualified assistants is already excessive.

Making a comparison with the medical profession, it is interesting to note that, having paid examination fees to a Royal College or University, a doctor may practise as a fully-qualified member of his profession, the equivalent of a chartered architect, without further subscription, except for a registration fee compatible with that of ARCUK.

He may voluntarily join the BMA which in addition to supplying the services offered by the RIBA, *does* look after his interests to a far greater degree and, for the same subscription, sends him a weekly journal containing much useful information, whereas the RIBA only publish a monthly one which is not very informative.

DOUGLAS WIELD.

London.

(*More letters on page* 318)

NEWS

RIBA

Do Architects Want a Trade Union?

Do architects want a trade union? The RIBA is trying to find an answer to that question. The questionnaire referred to in our leading article last week has now been sent out to the Institute's members, and this questionnaire and its accompanying report are the subject of this week's editorial, on page 299.

The report is a summary of a larger one prepared by the Institute's Salaried and Official Architects' Committee. The RIBA council asked for this report after representations had been made to it "that there is an appreciable degree of dissatisfaction among architects in salaried employment with the existing bodies concerned regarding their representation in negotiations affecting their conditions of service and salaries."

Following is an extract from a letter written to members by the Institute secretary, C. D. Spragg:

"You will see that the conclusion has been reached that the only organization capable of effective representation is a trade union, and you will also see that it has been confirmed by Queen's Counsel that there is no possibility of the RIBA acting directly in the capacity of a professional trade union under the existing Royal Charters and Bye-laws, nor any prospect of the Privy Council allowing amendments which would permit the RIBA so to act.

"It therefore follows that if there is a substantial demand for more effective representation, it must be met by some organization outside the Royal Institute, but having its full support and goodwill.

"The Council's next step, therefore, is to attempt to assess the extent of the demand for stronger representation through a trade union organization wholly or mainly composed of architects."

"You will understand that the action now being taken by the Council is in no sense equivalent to calling for a referendum. It is simply a preliminary enquiry with the object of assessing the demand for representation on a trade union basis, and the Council must remain free, after assessing the results, to consider what form of organization, if any, would best serve the interests of salaried members."

The summary of the RIBA committee's report gives a brief account of the efforts made by the Institute, since 1928, to deal with the problem of "representation of salaried architects."

"In 1928 the council set up a standing committee known as the Salaried Members' Committee to report periodically upon all matters affecting the welfare of salaried members, to frame a policy in regard to official salaried appointments and to investigate conditions of employment and recommend any action for benefiting all ranks of the profession. The committee were subsequently given representation on the RIBA council.

"In 1937, the RIBA council set up a further standing committee, the Official Architects' Committee. They were also given representation on the Council. The principal function of the new committee was to deal with matters concerning official architects in charge of departments.

"The RIBA Scale of Annual Salaries was first published in 1930 and was revised in 1937 and again in 1945. In 1944, the RIBA council appointed a Joint Negotiating Committee on Salaries, consisting of representatives of the Salaried Members', Official Architects' and Practice Committees, the Royal Incorporation of Architects in Scotland, the Institution of Professional Civil Servants and the Association of Building Technicians to co-ordinate all questions of salary affecting salaried members. In 1946, a senior member was added to the staff of the RIBA for the special purpose of negotiating on behalf of those in salaried employment. By 1947 it became clear that there was some duplication in the existing committees and they were merged into a single Salaried and Official Architects' Committee, with two representatives on the RIBA council. By then, it had also become clear that, through no fault of the Royal Institute, its ability to undertaken protective activities was greatly restricted both by its own constitution and by those of the several negotiating organizations dealing with architects' salaries. Much useful work had, however, been done in the investigation and representation of individual cases and in advising employing authorities."

"It is important," says the report summary, "to be clear as to the exact meaning of the terms 'negotiate' and 'negotiating body' in their application to salaries and conditions of service. To negotiate means to determine by mutual agreement between representative associations of employers and staffs the salaries and service conditions of the latter; such agreement to be binding on both parties. The representative association, or negotiating body, on the staffs' side must be accepted as:—

(*a*) elected by the majority of the employees as their representative;
(*b*) recognized by the employers' side;
(*c*) able to bind its members to any agreement reached in negotiation; and
(*d*) having some sanction to bring to bear if there is a breach of the agreement either by the employers or by its own members.

"In the terms of the Royal Charter, the RIBA is 'an institution for the general advancement of civil architecture and for promoting and facilitating the acquirement of the knowledge of the various Arts and Sciences connected therewith.' Anything approaching full trade union activities in the modern sense of the words would hardly be covered by the wording of the Charter."

The report describes the existing negotiating machinery in central government service, local government service, the nationalized industries and so on. It goes on to describe possible solutions to the problem of forming an adequate negotiating body.

"Since a trade union is not the only type of organization which has a right to act in a protective capacity for its members, the Committee studied the possibilities of securing effective representation through the formation of some other association. The alternatives considered were a limited liability company, an unincorporated association, a friendly society and a board of trustees. Each of these was rejected as being unsuitable for the task, especially having regard to the implications of the Industrial Disputes Order, 1951. The Committee, therefore, came to the conclusion that only a trade union satisfied all the conditions required of an effective protective organization.

"Queen's Counsel has expressed the opinion, with some caution, that it might be possible to secure the necessary approval from the Privy Council, including amendment to the Bye-laws, for the RIBA to set up a trade union which would be autonomous but have the approximate status of an Allied Society. There are, however, a number of difficulties in such a solution, both financial and constitutional. Additionally, it must be remembered that an entirely new body would have to start from scratch in competition with existing trade unions which cater for architects.

"It has also been pointed out that there is already in existence a trade union which might serve the purposes described. The advantages of the RIBA reaching some accommodation with this body are that it is an organization already in being and with experience of the work. The possibilities of its accepting certain conditions in consideration of full collaboration with the RIBA would need to be explored."

The following are the questions which the Institute has put to its members:—(1) Are you mainly self-employed as a principal or partner in private practice? (2) If a Student, RIBA, are you taking a full time course at a school? (3) Are you employed as a salaried assistant in private practice? (4) Are you in salaried employment in Central Government service? (5) Are you in salaried employment in Local Government service? (6) Are you in salaried employment in a public or private corporation? (7) Are you mainly employed in a teaching appointment? (8) Are you in favour of having a trade union composed wholly or mainly of architects and approved by the RIBA? (9) Are you now a member of a protective staff association which represents you and/or negotiates your salary scales and conditions of service? (10) Would you be prepared in principle to join a trade union described in question 8, it being understood that an affirmative answer in no way binds you and that membership would not preclude you from retaining your membership of any organization referred to in your answer to question 9?

Conference at Torquay

The subject of this year's British Architects' Conference, which is to be held at Torquay from May 26 to 29, will be "Building Materials and Techniques." Papers will be given by William Allen, chief architect of BRS, and E. D. Mills.

BRS will be contributing to an exhibition which is to be held at the conference headquarters, Torre Abbey.

The hosts, the Devon and Cornwall Society of Architects, will hold a reception on the first evening, at the Marine Spa. On the second evening there will be a civic reception in the town hall. A conference dinner will be held, on the third evening, at the Palace Hotel.

MOHLG

Housing in January

The MOHLG announces that 24,595 permanent houses were completed in January, compared with 20,584 in January, 1953.

DIARY

Photographs of Venetian Villas. Exhibition at the RIBA, 66, Portland Place, W.1.
UNTIL MARCH 27

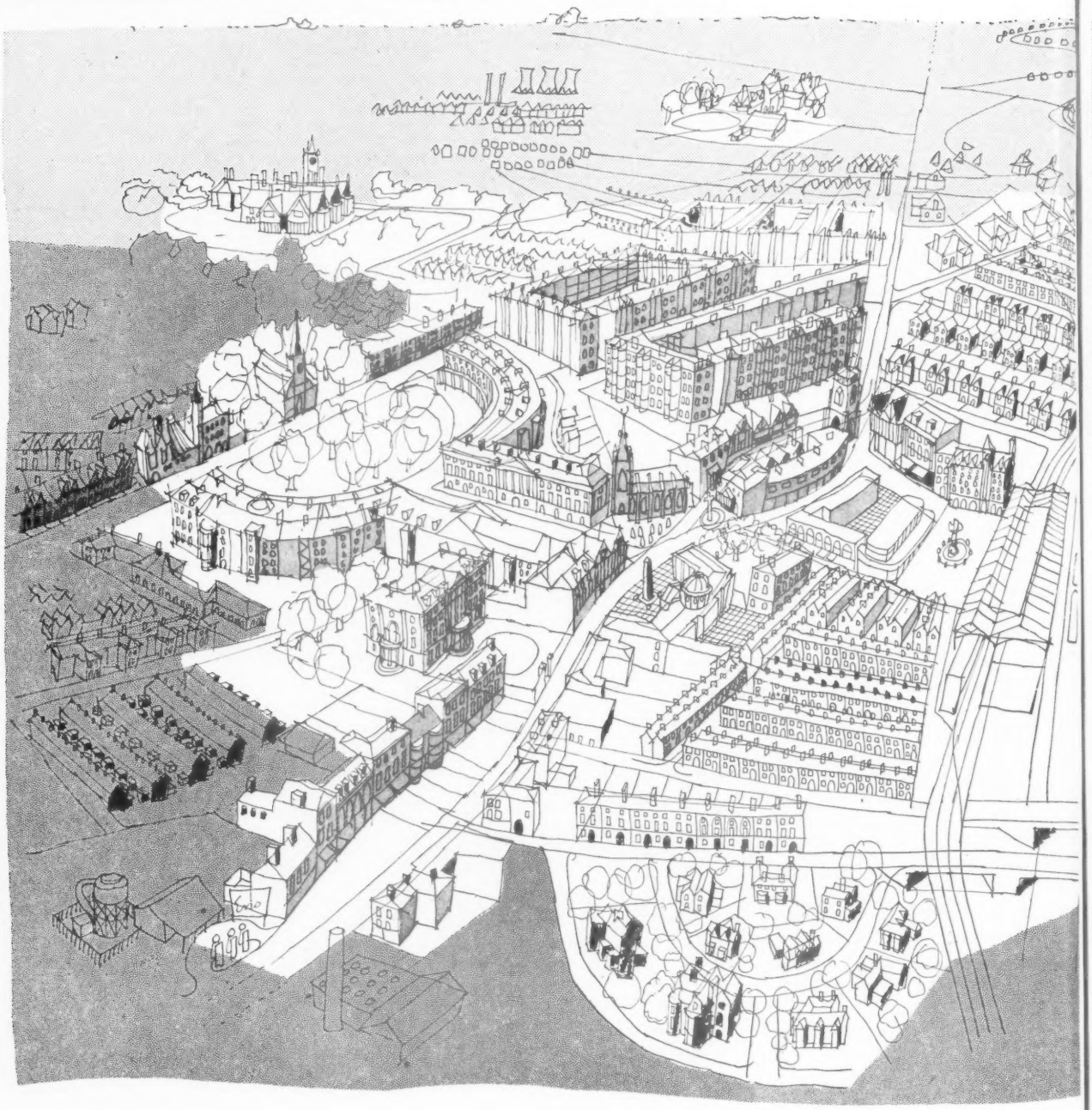
Recent Research in Deformed Reinforced Bars. Dr. K. Hajnal-Konyi. At the RCA, 94, Petty France, S.W.1. 6 p.m.
MARCH 17

Talk in Connection with AA Visit to LCC Housing Estates. Oliver Cox and H. G. Gillett. At the AA, 34, Bedford Square, W.C.1. 6.15 p.m.
MARCH 17

"*The Modulor.*" Discussion on Corbusier's book. At ICA, 17-18, Dover Street, W.1. 8.15 p.m. MARCH 18

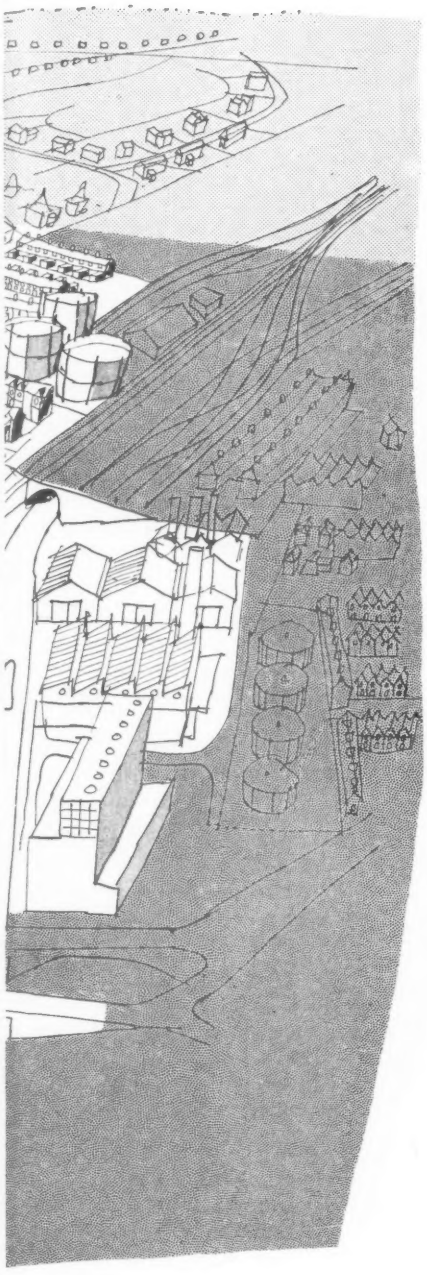
Visit to LCC Housing Estates at Putney Heath and Roehampton. Arranged by AA, 34, Bedford Square, W.C.1. (For tickets apply to the AA.) 9.30 a.m.
MARCH 20

The Problems of Resettlement in New Communities. R. J. Allerton. At the RICS, 12, Great George Street, S.W.1. 5.30 p.m.
MARCH 23



CONVERSIONS

by Felix Walter



This week the JOURNAL'S *Guest Editor for* 1954, *Felix Walter, commences his series of articles on conversions, which will be appearing throughout the year, with a description of six attempts recently made to suggest a better use of the country's stock of houses. The first example is of very great interest to all those who are concerned with the preservation and sympathetic use of buildings of architectural interest. Architect Bernard Brown has shown, in Colonnade House and the Paragon, Blackheath, and in Trumpeter's House, Richmond, how to produce conversions of considerable merit. Victorian additions, although of possible lettable value, have been ruthlessly removed, and the endeavour made to restore as closely as possible to the original. At the same time, the building owners have been encouraged to continue by being adequately recompensed for their capital outlay, and a fresh lease of life has been given to these architecturally valuable buildings. The remaining five examples of conversion schemes are concerned with more modest buildings—private enterprise schemes for the conversion of byelaw houses at Stockton and Croydon, and two examples of work undertaken by local authorities. These latter schemes, by Birmingham and Liverpool, will appear in a continuation of this article in next week's* JOURNAL. *The sketch, left, by Gordon Cullen, of an imaginary town centre, shows a conveniently condensed version, physically, of the problem which every local authority faces with regard to the more efficient use of the country's stock of houses. Typical examples are: background, the large Victorian mansion and a group of rural cottages; centre, Georgian terraces and a crescent, a large Georgian house, tenement blocks, lower-middle class late-Victorian terraces and bye-law houses; foreground, the informal Georgian main street, the medium-sized Georgian terrace, huge Victorian villas and back-to-back housing. Suggestions for the handling of all these types of conversion will be discussed in due course by Felix Walter.*

TAKING STOCK OF RECENT EXPERIENCE

CASTING ONE'S EYES OVER LARGE CITIES AND TOWNS OR EVEN HUMBLE NEW dwellings it is difficult to fully appreciate the rapidity of deterioration of these man-built communities. In its day, each building appears capable of indefinitely withstanding the elements and social change, but, in fact, the economic life is remarkably short. The high cost of building and maintenance becomes more of a liability each year.

Before considering ways and means to counter the problem of the country's stock of neglected house property, and the better use of those now too large for single family occupation, let us first examine some recent attempts to redeem this enormous reserve which was built to meet social needs more than 50 years ago. In fact, where have we got to and what have we to face? Indeed what can we learn from a cross section of experience—success or failure—of these initial schemes of today?

How quickly one tires of the cliche—the salesman's stock in trade—" The Test " and " The

Experiment" and many alike: none are original. When we look at the past, we find new ideas so often have precedents, and even this drive for housing improvement is just a revised version of an old subject. Half a century ago there was the "Kensington Experiment," but mercifully standards have changed for the better since then. The location of this small endeavour at rehabilitation experienced an infant death rate of 454 per 1,000 of registered births—nearly 50 per cent. And I am tempted to quote a passage in so many ways a repetition of what we ourselves face in 1954. "With a view to retaining the tenants by avoiding an expensive demolition scheme . . . the Council decided to buy and adapt the dwellings in Kenley Street . . ." "Owing to the obstacles placed by the existing law in the way of public bodies buying property at its market value, the first purchases were effected without publicity from a fund advanced on the personal responsibility of the Mayor." So much for the past.

Mercifully the present government is fully aware of the need for concerted action before conditions worsen—and, in an attempt to provide increased powers for the local authority, and some incentive to the landlord, the Housing Repairs and Rents Bill was introduced last year. It is still in committee, but after ten sittings only six clauses out of a total of 44 have been discussed—and these are, perhaps, the least controversial. To put some impetus into the proceedings the Government introduced a motion to apply the "guillotine" which sets a time-table for the committee stage—and in the face of persistent objection by the Opposition the motion was carried during the session on February 23 last. There is now reason to believe that its passage will be hastened—and once it emerges in its final form the full implications will be reviewed in this series.

By the time loans on new local authority housing have been amortized, this means of providing accommodation will be extremely costly—and, with the present prosperity standard of the country such an expensive programme cannot continue indefinitely. In addition, there are untold acres of structurally sound buildings which, for a fraction of new housing costs, could be given many years of useful life. Again, those in true slum property have suffered unnecessarily long in primitive and unhealthy surroundings and it is certain that the majority will experience no change during the next decade at least—and these people have qualified, through their patience, for some consideration.

No one in their senses would wish to perpetuate these animal standards but, if alternative houses cannot be provided immediately—particularly at rents which present occupants can afford—there still remains the alternative of bringing to them the minimum of sanitary convenience and a roof and walls which will withstand the elements. This patching—or soleing and heeling—of dwellings is a vital part of the drive for improved conditions. But, naturally, any Government assistance which is forthcoming, as a result of the Bill, can only be extremely small to prevent its abuse, which might unreasonably extend the life of houses some of which had no right to existence even a hundred years ago.

There are many other problems to be faced as well: the authority with lack of building land and the necessity to demolish as a means of providing such an area; the difficulty of accommodating tenants where houses are to be cleared—and the private owner-occupier has his nuts to crack as well as the landlord. The Rent Restriction Acts are long out-dated and unbelievably confusing even to the expert. Until these are revised (a job which few politicians relish) the trials of the property owner can only be alleviated by concessions in the new Bill. However, this is drifting into waters which the more cautious would circumnavigate.

But to revert to these pioneer schemes—in all, six are to be described, five of which have been, or are being, carried out. They include the rehabilitation of old tenements, the soleing and heeling of housing with an anticipated short life, the conversion of better-class large houses of architectural distinction into flats and their leasehold disposal. Then there is the introduction of amenities to the bye-law houses with grant aid under the Housing Act, 1949—and the conversion of this same type into flats. Finally, the improvement and sale of dwellings to the sitting-tenant by private enterprise methods without Government grant or loan.

Naturally there are further methods with the common interest of improvement or conversion. At the top of the scale one can cite the Eaton Square development in London which attracts those with the greatest income—and this is hardly typical of the problem—but, as in the case of the intermediate middle "class" housing problems, it will be studied in its respective section later. Four approaches are to be described in this issue of the JOURNAL and this article will be continued next week, concluding with two of several methods adopted by the local authority.

1 CONVERTING THE LARGER HOUSE

Three Georgian Examples

(Architect : Bernard Brown)



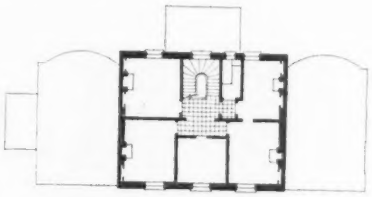
ALTHOUGH SOME IN PUBLIC LIFE FROWN UPON THE profit instinct, our very survival depends on the ability to benefit from our daily labours. In fact, a sliding scale exists between honest endeavour and ruthless profiteering—it is all a matter of degree and individual values.

If any marked progress is to be achieved in returning to circulation the millions of neglected houses, there must be the

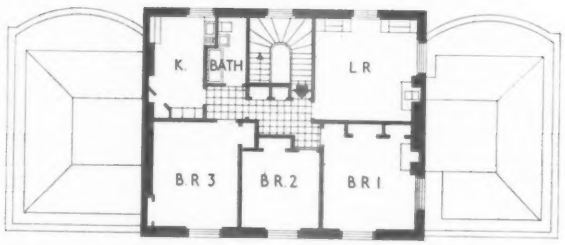
Above : A desolate sight which faced Bernard Brown before Colonnade House at Blackheath was converted into flats. This is the south elevation with so much of the original design lost amidst Victorian extensions, primitive plumbing and festoons of creepers, all of which were to disappear.

Below : Some time after Colonnade House had been altered—again the south elevation but with a difference. The ground level has been lowered to increase natural lighting in the basement ; most of the centre panel brickwork has been rebuilt and the old windows in the bows replaced by larger glass areas—in themselves rather overpowering, for the whole scale of the building is changed.

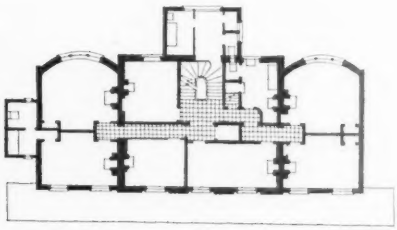




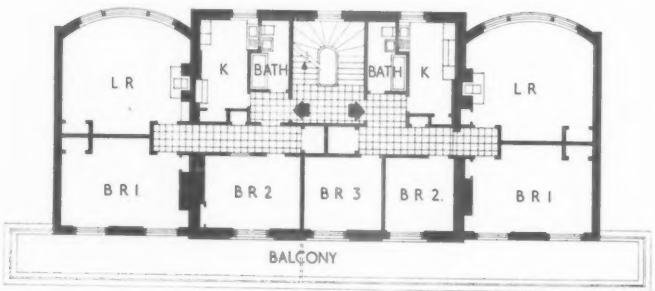
Second floor before conversion



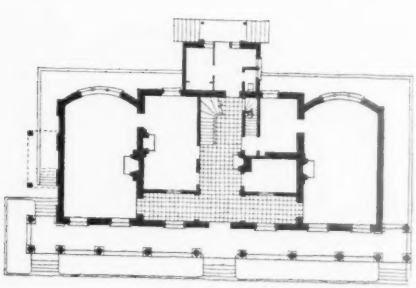
After conversion



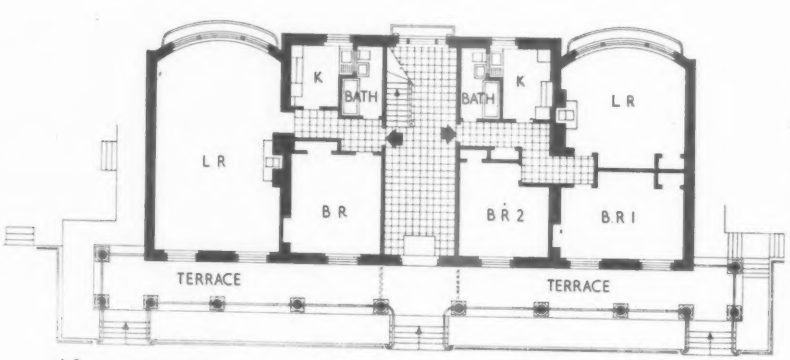
First floor before conversion



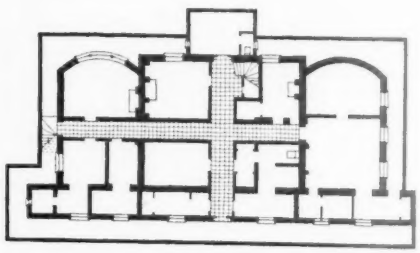
After conversion



Ground floor before conversion

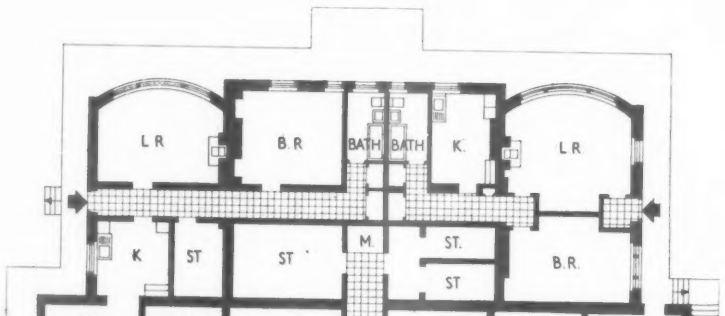


After conversion



Basement before conversion

[Scale : $\frac{1}{16}$" = 1' 0"]



After conversion [Scale : $\frac{1}{8}$" = 1' 0"]

Colonnade House.—The plans above illustrate the "natural" conversion. Few existing partition walls have been tampered with and the original staircase remains untouched. Seven flats are provided but it is questionable whether the kitchens and bathrooms should have occupied the southern aspect when all bedrooms on the three upper floors face north. Some believe the modern housewife spends her days at the kitchen sink and thereby qualifies for the better aspect—and this theory justifies the planning—but where it is a matter of limited choice between a warmer bedroom or kitchen, there seems little competition if you assess the actual time spent over and adjoining the sink (and the added amenity in having another habitable room capable of being used as more than just a bedroom and benefiting from what little sunlight is offered in this northern hemisphere). In the interests of symmetry, all bathrooms on the three upper floors have no external windows—but are given a limited degree of indirect natural light through high level windows in the kitchens.



Since the war a number of bodies have been formed, calling themselves investment trusts, with the sole purpose of purchasing property in varying stages of dilapidation, converting the houses into flats or smaller house units and reselling these on a leasehold basis. There are those which have a more particular interest in buildings of historic or architectural interest and the parallel endeavour is their preservation as well. There is clearly something to be learnt from these principles which might equally be applied to smaller property as well—and there are, of course, disadvantages. The following notes, describing one property in particular, and others in general, will explain customary procedure by such an investment trust and the shortcomings which, though not insuperable in themselves, may require an overhaul.

Above : The reconstruction of the Paragon involved skimming the Victorian impedimenta from the original design and replanning within to retain the best of the features—a task for the specialist with a sound knowledge of his subject. This rear elevation is typical of conditions at the start.

Right : example of enlarged bow windows in a cluster at the Paragon, Blackheath. The domestic scene in the foreground poses the question whether limitations exist to prohibit lines of washing becoming the focal points of the lower flats.



incentive—and there is no reason to exclude local government from this. As a broad generalization, private landlords consider that they have been ill-treated, with their incomes down to zero, or below, and their investments rotting before them. In any case this is the opinion of many. They have relied on, or hoped for, reasonable and regular interest on capital outlay over a period of years. But if this system of ownership has broken down, an alternative must be found as a replacement. How, then, can the landlord pay his way and should he change the system to do so ?

This is just one of the questions, but perhaps the most fundamental, which are to be investigated. But there is one solution worth immediate examination for it has been tested and proved financially worthwhile, at least in the initial stages. Whereas the average landlord has relied, in more peaceful times, on the gradual return of his capital, the change in social structure and the increased speed of living may, in turn, demand more rapid methods of retrieving capital and interest.

Colonnade House, at Blackheath, forms part of the Paragon layout dating back to 1802. It suffered considerable damage during the war and was written off by the War Damage Commission as a " total loss." But after being listed by the Ministry of Town and Country Planning as of architectural merit, it was accepted by the WDC as being fit for " cost of works " compensation. An investment trust purchased the building, in part as a measure to preserve its architectural interest and also to provide within this large house a series of flats. This has proved to the owners to have been a good financial proposition. By disposing of the units on a leasehold basis, the capital originally invested has been recovered for re-application elsewhere.

The Conversion.—Although a considerable amount of demolition of excrescences and reconstruction through war damage was necessary, the house fell naturally into its revised form. To take charge of this work, Bernard Brown was retained as the architect and within the structure he



A section of the Paragon at Blackheath—of which Colonnade House forms a part at the westward end of this impressive development of 1802. *Other sections have suffered from neglect and war damage.*

planned seven self-contained flats, each with a living room having a southern aspect, a kitchen, bathroom and one to three bedrooms—and a store for each flat beneath the Colonnade.

The original main staircase was retained and there was little alteration to internal partitions. The natural lighting of the basement floor was improved by reducing the ground level externally and forming a sunk garden adjoining the south wall. Elevationally it was intended to retain the impression of a single house, and to return it to the original design by the removal of later extensions and unsightly plumbing. The triple windows in the bows were replaced by larger sash windows—perhaps too large for the elevation, but the occupiers appreciate them. There must also be some regret through the loss of the blind casings which preserved the scale of this symmetrical south front—their condition (or possibly financial limitations) may have been responsible, but it is, nevertheless, to be deplored. Domestic hot water is provided by dual-purpose fireplaces in each living room, with alternative electric immersion heaters.

The Advantages Claimed.—(*a*) The units are sold on a capital payment with a 90-year lease and a ground rent varying between £15 and £25—this latter provides a small income intended to cover administration, and could be passed on to the National Trust or some similar body interested in the preservation of the building.

(*b*) The capital payment allows a good standard of finish throughout the conversion.

(*c*) The project is outside the control of the Rent Acts.

(*d*) Security of tenure is given at a comparatively low capital cost for the scale of accommodation provided.

(*e*) The flat owner's capital is not frozen—for he can re-sell his lease.

(*f*) With the present large market for flats selling from £1,000 to £3,000 on long leases with the property in perfect condition, there is little difficulty in disposing of the units—and building societies are willing to advance at least two-thirds over a repayment period of 20 years.

(*g*) The cost of repairs is shared between flat owners in the proportion of the net rating assessment of their own flats to the total assessment.

(*h*) Each flat owner enters into a deed of mutual covenant in respect of repairs and upkeep of communal areas of the house and grounds. This is described in greater detail below.

A Typical Example of Flat Purchase.—With a capital payment of (say) £1,800 the purchaser secures a 90-year lease with a ground rent of £15. The annual outgoings to be met would be :

	£
Annual ground rent	15
General and Water rates	25
Insurances	2
Schedule "A" (less tax deducted on rent)	15
Allowance for repairs (share of)	10
Cleaning main hall and staircases	5
Lighting same	1
Garden upkeep	10
Wear and tear of main hall carpet, etc.	1
3 per cent. interest on £1,800 purchase price	54
	138

LEGAL ASPECTS.—*The Lease.*—The legal side of the transaction is carried out by two documents—a Lease and a Deed of Mutual Covenant. The lease is, basically, a common form of full repairing lease for a section of a building. The Lessee is free to assign the lease without prior consent, save during the last seven years of the term, but all assignments of the lease must be registered.

The covenants by the Lessor are usual except for one : the Lessor himself covenants to contribute to the joint cost of maintenance in respect of any flat not let on lease containing a provision imposing that liability on its lessee. This ensures that whether or not all the flats in the building are let, the proportion of the joint cost of upkeep borne by each tenant does not exceed that which he would pay were all the flats let.

The method of proportioning the cost of maintenance of common parts of the building and its amenities has already been explained. Where the flats are of varying sizes, such a proportional contribution is clearly desirable.

The Deed of Mutual Covenants.—A series of leases of a building of this kind create rights as between each Lessee and the Lessor. They do not create mutual rights and obligations between the Lessees themselves. Normally, if any one tenant fails to perform his obligations—or more specifically, fails to pay his share of the common costs—it is only the Lessor who can enforce performance of the Covenant.

The form of mutual covenant deed used in this case gives eash Lessee a right *vis-a-vis* each of the others to compel any one of them to carry out the common obligations in each of the leases and pay his contribution. It strengthens very considerably the powers of those actually living in the building to see that the cost of the services and work they all enjoy is fairly shared and that each Lessee keeps in line.

Comments.—This system of development and finance by the sale of long-term leases of each flat is not without its weaknesses. Ninety years is a long time—and inevitably the individuals who constitute the " Lessor " will change. Those who have a personal pride in, or a sense of obligation over, the success of the plan will be replaced by those whose interest may be quite different.

Where a building is leased for a long period at a low ground rent, at first the Lessee will have an incentive to maintain because the value of his lease depends on it. Gradually the emphasis shifts until, in the end, it is the owner of the freehold who has the greater incentive, as his right to resume possession comes nearer. How do these basic matters apply to this kind of property management ?

The risk is that it will fall between the two stools. The original Lessor, the developer, having let all the flats has discharged his function. The real incentive to maintain the structure should lie with the tenants of the building as a whole—but they are handicapped because they are not necessarily organized as a body and certainly they do not possess all the legal powers which the Lessor has automatically. The Deed of Mutual Covenant meets this situation to some extent, but not all the way. For there remains some divorce between interest and power.

The Trumpeter's House at Richmond is another conversion for which Bernard Brown was the architect. This magnificent old building, originally part of Richmond Palace, now provides four flats (at £7,500 each), for those who are prepared to pay for an exceptional standard of finish.

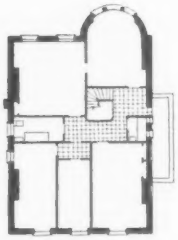


Right : A delight for those who enjoy the conversion job. Once again, at Paragon House, Blackheath, the preliminary demolition of the unwanted addition is just under way. Perhaps only a wreck to the layman but it is capable of economically providing six flats.

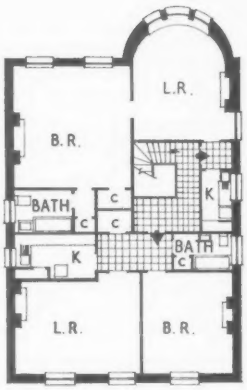




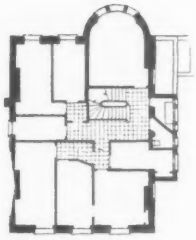
Above: Paragon House, Blackheath, after the operation. The main entrance door and surround (up the short flight of steps) was brought from London. Bow windows have again been enlarged and the structure simplified by the removal of tiresome and ill-conceived growths. Settlements in the brickwork incurred an amount of rebuilding and perhaps justified some change in fenestration. The plans right, show how Paragon House has provided six flats within the simplified structure. The two lower floors each contain one three-bedroom flat with a large living room, kitchen and bathroom; whilst on each of the upper two floors are two single bedroom flats and living room, kitchen and bathroom. Of the three rooms where the enlarged bow windows have been provided, two are bedrooms. Greater flexibility could have been achieved by more "open" planning, especially in the case of the two-room flats which might justify a degree of informality.



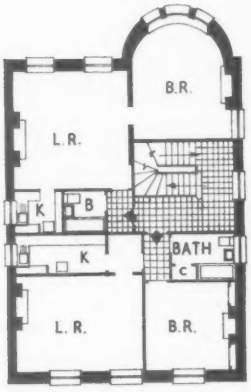
Second floor
before conversion



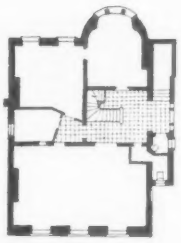
After conversion



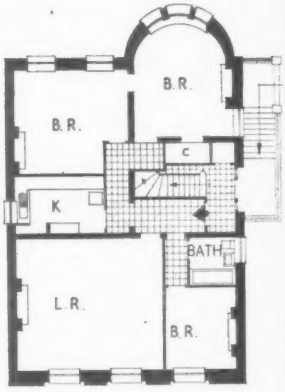
First floor
before conversion



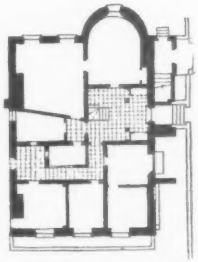
After conversion



Ground floor
before conversion



After conversion



Lower ground floor
before conversion
[Scale : $\frac{1}{16}$" = 1' 0"]



After conversion
[Scale . $\frac{1}{16}$" = 1' 0"]

The second weakness is the inevitable change in the value of money over any period as long as 90 years. To some extent this objection is met, in the case of this particular scheme, by the provision which relates each tenant's liability to contribute to common costs of maintenance to the rateable value for the time being of the premises he occupies. But there is still the monetary rent reserved by each lease which is intended to give the Lessor an income out of which to pay his management costs—and it is virtually certain that, at some time during the 90 years, those annual rents will not do anything of the kind. It is not difficult to imagine what may follow—with the building steadily losing money for the Lessor, his interest in it or its problems must decline, particularly if his reversionary rights are still too remote to be of any value. And it is difficult to imagine any prospective tenant of the flats being willing to accept a long lease in which the ground rent fluctuates with, say, the movement of the index of retail prices. This for the moment must remain a problem without solution.

One must realize that although this type of conversion, slightly on the grand scale, is encouraged by a seller's market





WORKING DETAIL **LIGHTING: 7**

TWO LAMP STANDARDS: SCHOOL AT REDDITCH AND HOSPITAL IN LONDON

Redditch : Richard Sheppard and Partners, architects
London : Easton and Robertson, architects



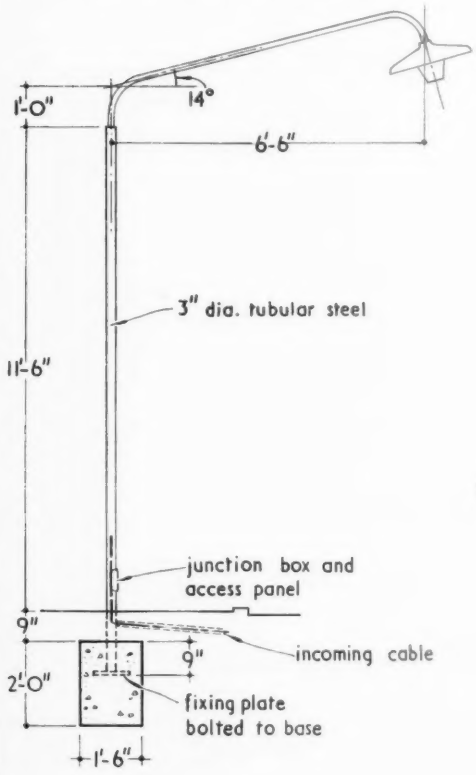


In the standard on the left, the bulb is protected by a casing of expanded aluminium lathing. The standard on the right, which is more formal in character, is fitted with a glass globe. In this example the junction box is positioned directly above the light.

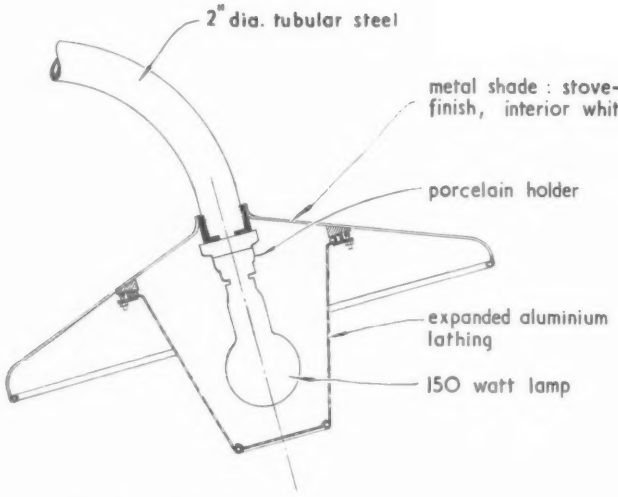
WORKING DETAIL **LIGHTING: 7**

TWO LAMP STANDARDS: SCHOOL AT REDDITCH AND HOSPITAL IN LONDON

Redditch : Richard Sheppard and Partners, architects
London : Easton and Robertson, architects

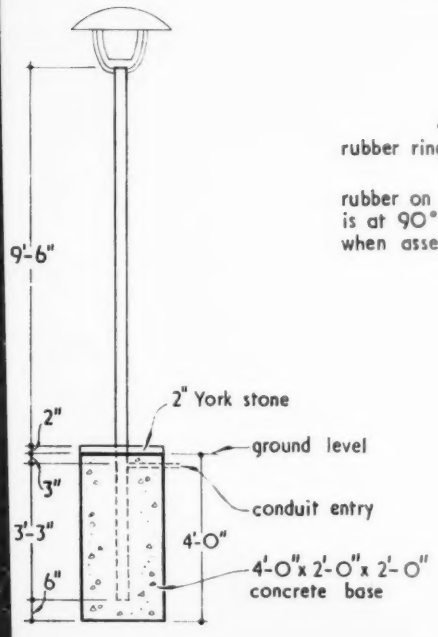


key elevation

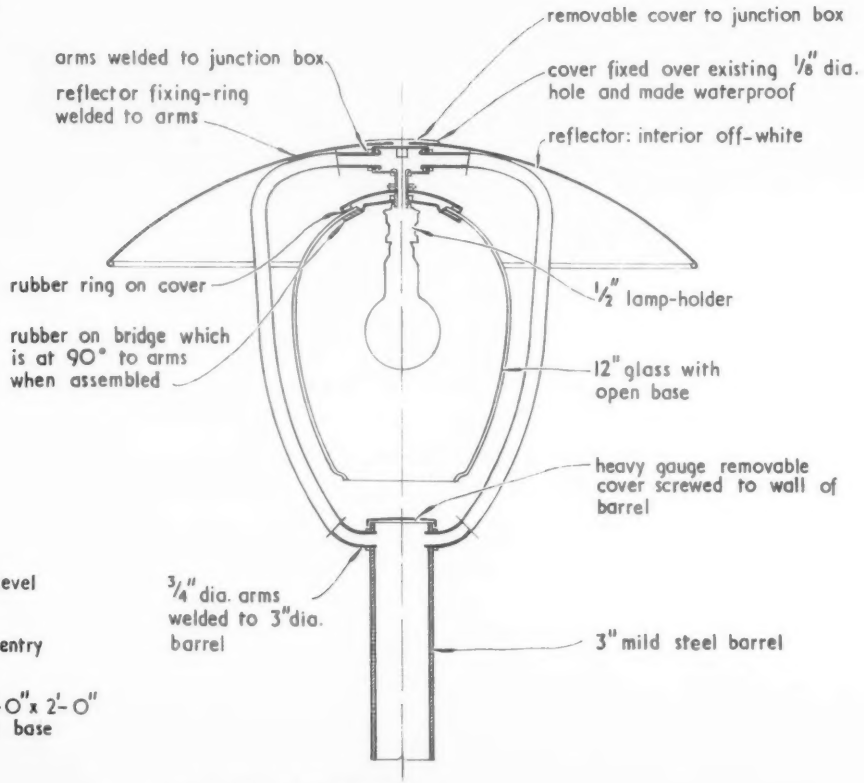


section through lamp
scale 1½" = 1'-0"

LAMP STANDARD: REDDITCH.



key elevation



section through lamp
scale 1½" = 1'-0"

LAMP STANDARD: LONDON.

WORKING DETAIL

BALCONIES: 9

BALUSTRADE: SCHOOL AT HARROW

John and Elizabeth Eastwick-Field, architects, in collaboration with C G. Stillman, architect to the Middlesex County Council; E. A. J. Baynes, assistant-in-charge

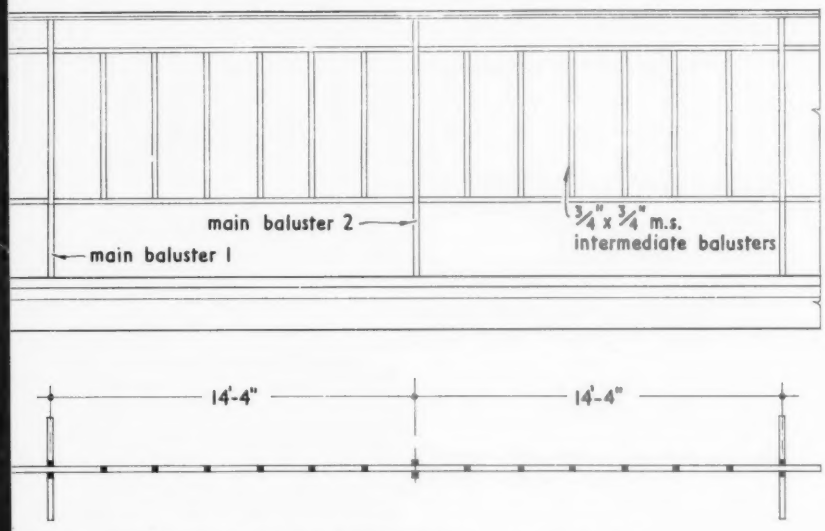


The design objective of this balustrade was to give lateral stiffness without having recourse to the usual brackets. The unit lengths of the balustrade are shop-fabricated and are screwed together on the site through halved joints in the horizontal members; the capping is attached to the core by means of $\frac{3}{16}$-in. dia. set-screws which are screwed from below, the separate lengths of capping being butt-jointed together.

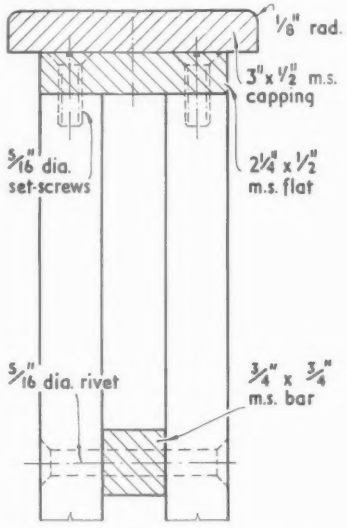
WORKING DETAIL

BALUSTRADE: SCHOOL AT HARROW

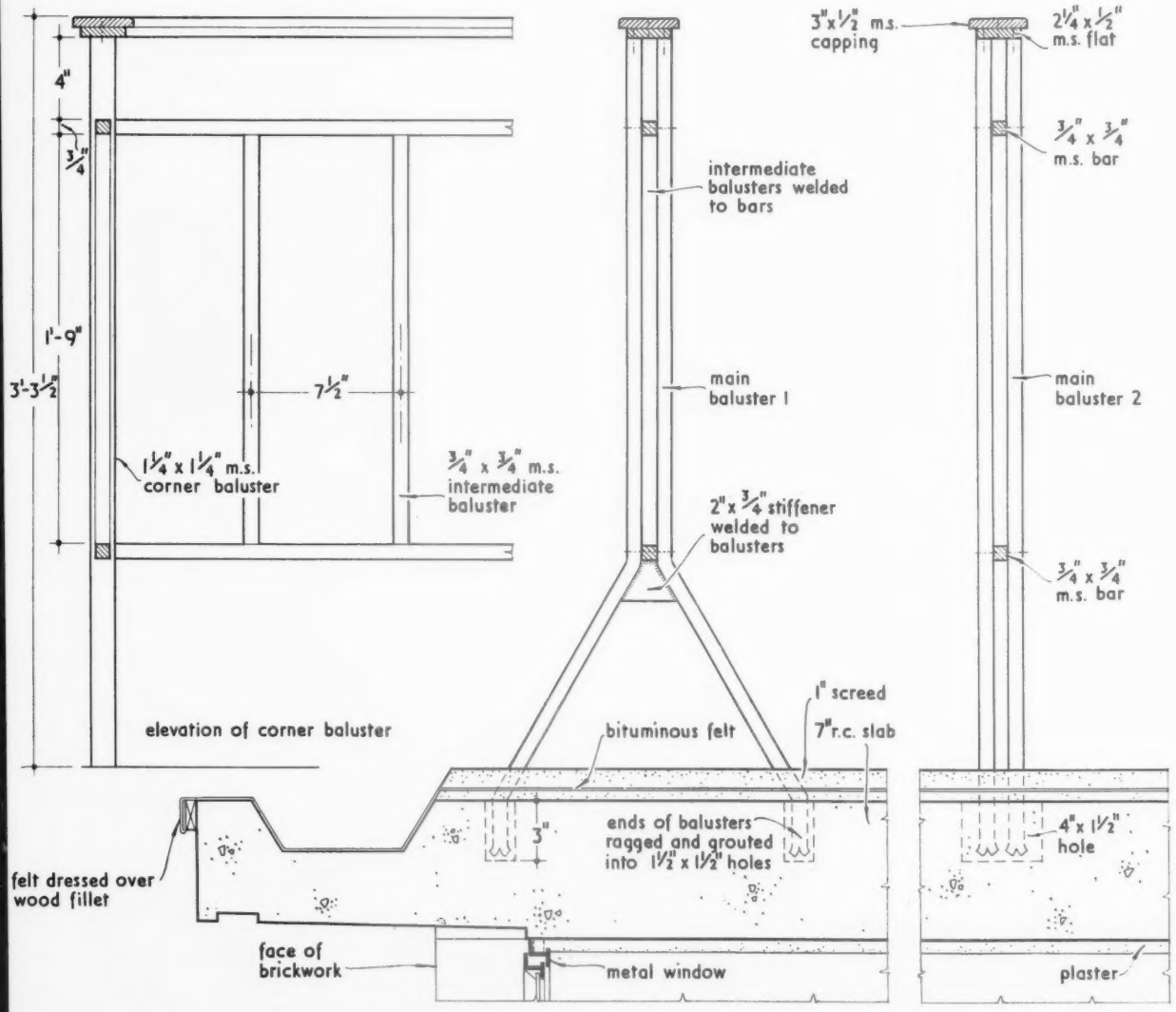
John and Elizabeth Eastwick-Field, architects, in collaboration with C. G. Stillman, architect to the Middlesex County Council; E. A. J. Baynes, assistant-in-charge



PLAN AND ELEVATION OF BALUSTRADE. scale ½"=1'-0"



½ F.S. DETAIL OF CAPPING.



SECTIONS THROUGH BALUSTRADE. scale 1½"=1'-0"



at present, this may weaken as the programme of improvement and conversion develops. If, say, in twenty or thirty years this market slackens, and there is also a change in the freeholder who has nothing to gain (particularly if the value of money drops) from his ownership until the lapse of leases, he may find on his hands quite a different standard of tenant from the original. From all this, doubts arise as to whether by this system of long leases of 90 years the present owners are not, perhaps, unconsciously creating problems for the landlord of tomorrow by adopting this simple means of rapid capital recovery.

The main stumbling block lies in the length of the lease—the need is therefore to assess the minimum duration of such a tenancy which will ensure the maximum benefit and protection to lessor and lessee and at the same time overcome, as far as possible, the pitfalls of an excessively long lease.

2 CONVERSIONS: THE BYE-LAW HOUSE

The Stockton Test

(Architect : R. Cowan)



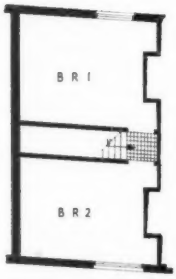
Alliance Street, the home of the "Stockton Test." Cobbled streets, dreary identical bye-law houses and not a living plant in sight—but still the play area for the children. Improving amenities inside the house is no problem compared with the need to provide relief outside. The four houses purchased by Allied Ironfounders were identical in plan. Local Byelaws prohibited the reduction of backyards below an area of 150 square feet and this restriction dictated, to some extent, the replanning of the new rear extension accommodating the kitchen, bathroom and W.C.

THERE MUST BE FEW WHO HAVE NOT HEARD OF THE Stockton Test—this in itself shows the widespread interest in this small job. To illustrate the differing approaches to repair, improvement and conversion tackled over the past few years, the Allied Ironfounders' improvement scheme demonstrates the application of grant-aid provided under the Housing Act, 1949 to a straightforward job. Few have benefited from this Government offer—in fact, Stockton itself has approved about 15 and the national total is short of 3,000.

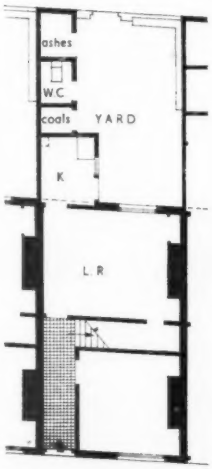
This is the case of four bye-law, 19th century, structurally sound, terrace houses lacking today's essential amenities—sanitation, a bathroom and a hot water supply. There are many millions like these—they could have a long life if they could be economically improved. By providing these minimum standards without frills or exceptional workmanship something has been achieved. It is far from an architect's paradise, and one would need to be all but a philanthropist to gain any satisfaction. A down-to-the-bone job, but, nevertheless, a problem calling for the best of professional assistance.

Replanning the houses is illustrated by the accompanying plans and photographs. Our main concern is the financial aspect. The work followed normal procedure: adherence to bye-laws, tenders, approvals, grant application (perhaps more rapidly dealt with than is common experience) and the whole job from start to finish on site was completed in a matter of 26 working days.

The rent of each of the four houses before improvement was 9s. per week. Under Section 9 of the Housing Act, 1936, the local authority may call for certain repairs by landlords to their old properties. In this case the authorities made an inspection with the result that the estimated cost of repairs was £208 for the four houses. Much of this work was situated in the rear extensions which, in any case, were to be reconstructed. However, to the neglectful landlord this

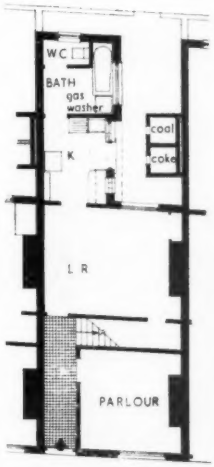


First floor before and after conversion



Ground floor before conversion

[Scale : $\frac{1}{16}$" = 1' 0"]



Ground floor after conversion

expenditure would be an ugly shock, for under present legislation he is not entitled to make any increase in rent to cover this expense, nor may it be included in the grant-aid for improvement.

Estimates for the improvement work amounted to an average of £350 per house—but the owners' liability was reduced to £175 by the 50 per cent. grant under the Housing Act, 1949. The rent, by agreement with the tenants, can be raised by 6 per cent. on the landlords' own capital outlay. This added 4s. to the original rent, plus a rise of 6d. in the rates due to improvement, making a weekly total per house of 13s. 6d.

Meticulous as some architects may be, they cannot always anticipate the unknown, and in this case an " extra " crept in—a $\frac{3}{8}$-in. water service was supplying eight houses and with the very poor pressure it was necessary to install a new $\frac{1}{2}$ in. supply to each of the four houses. The cost to each was £20 additional to the total estimate of £350. Had the work been included in the original grant application, it would have meant in terms of rent an increase of something like 3d., bringing the inclusive rent to 13s. 9d. per week.

But even so, the rent compares favourably with the Borough Council's new housing with similar accommodation. The local post-war houses cost about £1,550 to build and the rent is 22s. 2d. per week. And the Alliance Street tenant who benefits most from the improvement has the advantage of being in the same house and conveniently situated near the town centre.

To the landlords, however, this is a doubtful investment, for he has to continue meeting the expense of repairs, there is Schedule " A " tax and his capital has to be retrieved. Having accepted a grant, he may not sell the property for a period, unless he repays the grant. It may be that the new Bill in its rough passage through the House will emerge with greater inducements for the landlords—but we shall see. And later in this series a detailed examination of financial considerations will be included to investigate all the angles of this border-line problem.



The latest gadget in its time—but that was long ago. At last the tortuous pipes and damp walls are to be replaced by something new.



Looking into the new Stockton Test kitchen with the bathroom and W.C. *beyond through the doors.*

Although these improvements to the terrace houses provide dwellings of a far higher standard, they do not attempt to raise amenity standards beyond their structural walls. The machine-like monotony of street after street is perhaps another problem —but closely related. If the houses now have an increased life of 20 or 30 years one can be sure they may remain much longer, and it is only reasonable that an attempt should be made to improve the outside as well as in. The other Stockton schemes illustrated on pages 313 to 315 provide an alternative approach but does any one of these offer the real answer?

3 CONVERSIONS: THE BYE-LAW HOUSE

The Municipal Journal Scheme

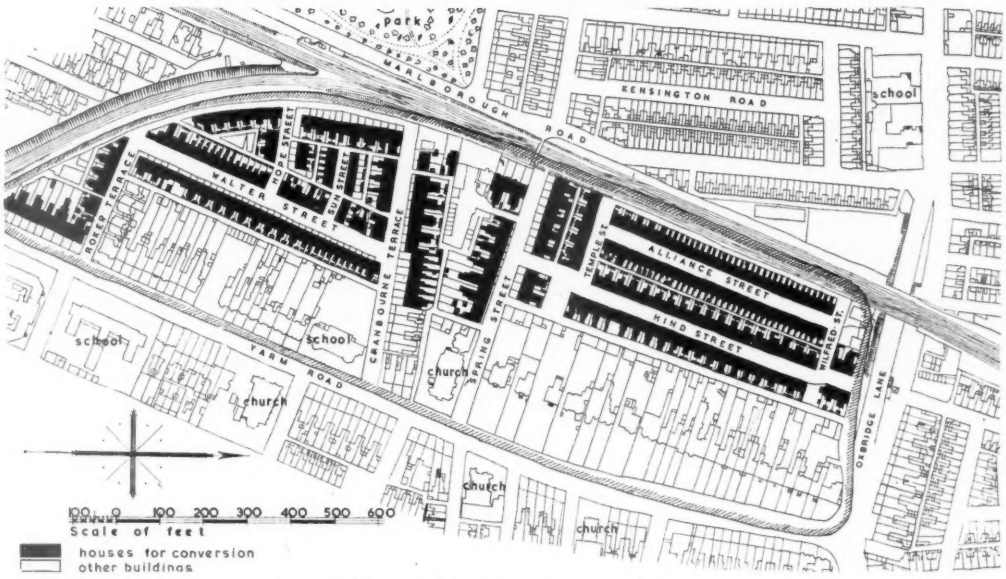
(Architect : Raglan Squire)

THE BENEFIT GAINED BY CONVERTING THE LARGE HOUSE lies in the increased number of dwelling units which it provides —but how small can a house be before it fails to offer this assistance? In 1953 investigations were set in motion by *The Municipal Journal* to discover whether out-dated dwellings could be modernised, given a minimum life of 30 years for half the cost of local authority housing. The intention was to show that these new units could be let at unsubsidised rents and at the same time keep the occupants where so many prefer to remain—in their own areas. Raglan Squire was employed as the architect for this research, the results of which are shown and commented upon below.

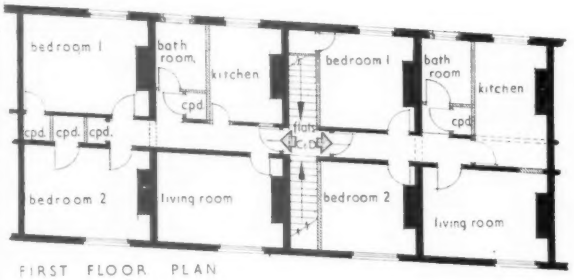
Stockton-on-Tees was chosen as typical of so much bye-law terrace housing up and down the country and by using the same area as that of the Allied Ironfounders improvement work, it was hoped to compare results. In general, the terrace houses selected were structurally sound, but amenities were substandard—the majority of wc's were in the yard, most houses lacked a bathroom, and washing arrangements were primitive.

Improvement as a standard was considered insufficient—it was intended that this theoretical study should review the principles of pulling down the back extensions and yard walls and accommodate what was lost within the structural walls remaining. It was felt that merely replacing the old out-houses by something new failed to eradicate the dreariness and lack of open space in streets and backyards. Four typical street schemes were prepared and the degree of success can be determined by examination of the illustrations.

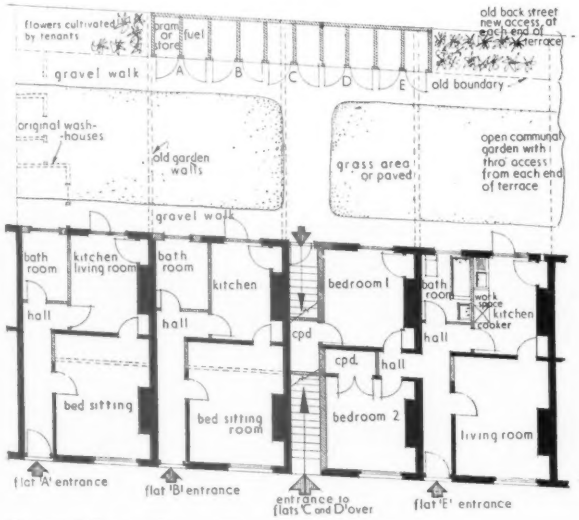
Alliance Street.—From four dwellings, five flats are provided, three with two bedrooms and two with one each. A double staircase to first-floor level provides access from both sides of the terrace block. Replanning is by horizontal conversion, and the demolished back premises and yards become an open space. Facing this five-unit conversion



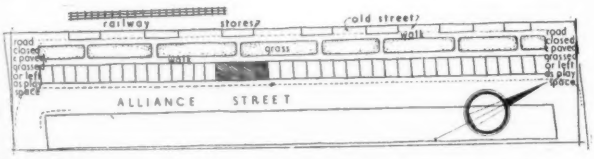
Site plan showing streets included in the *Municipal Journal* scheme



FIRST FLOOR PLAN



Ground floor plan [Scale : $\frac{1}{8}$" = 1 0"]



Site plan

in the old back street (adjoining the railway) are 10 small stores for fuel, prams, etc.—two stores for each flat.

The District Valuer's valuation for compulsory purchase of houses in Alliance Street was about £250 per house. The architect's estimate covering all structural repairs, improvements, redecoration and the preparation of the back area was £650 per house. Thus the total cost per house would be £900 or £700 per dwelling when five flats are provided from four houses.

Temple Street.—In this case four flats are derived from three houses—two have two bedrooms and two one bedroom



Above: The back of Alliance Street with the railway lines beyond the precarious fence. Squire's proposals include the demolition of all backyards and outhouses and to provide a communal area between the main houses and the fence. Left: By horizontal conversion, four existing houses will provide five flat units, three on the ground floor and two above. The outhouses and backyards have been swept away to provide a communal area with two small stores for each flat across the open space from the dwellings.

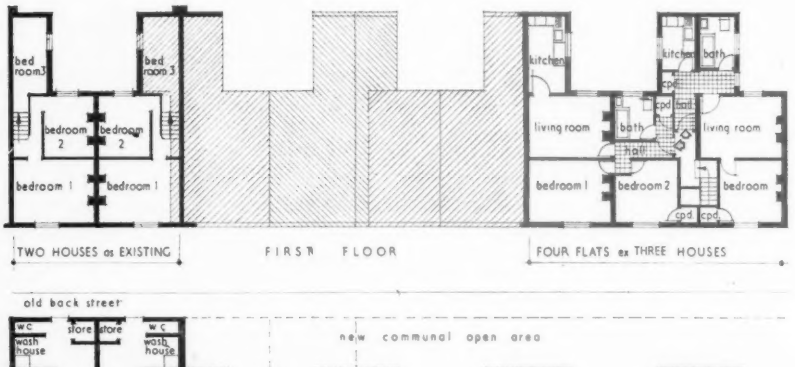
each, and here again, as, in fact, in all four cases, the conversion is horizontal. The cost per unit is as follows:

Acquisition	£300
Replanning, etc.	£800
	£1,100 per house

or £825 per flat. In this case also the old wash-house, W.C. and store are demolished and the area cleared, including the old back street, is thrown open as a communal area.

In both Sun Street and Walter Street the schemes provide seven flats out of six houses with, once again, the rear communal areas and the two stores across the open space for each flat. The present lack of open space is second only to lack of present-day amenities within the houses themselves. Tree and shrub planting in the newly-created open space would go a long way to humanising the monotony and remedying the absence of vegetation.

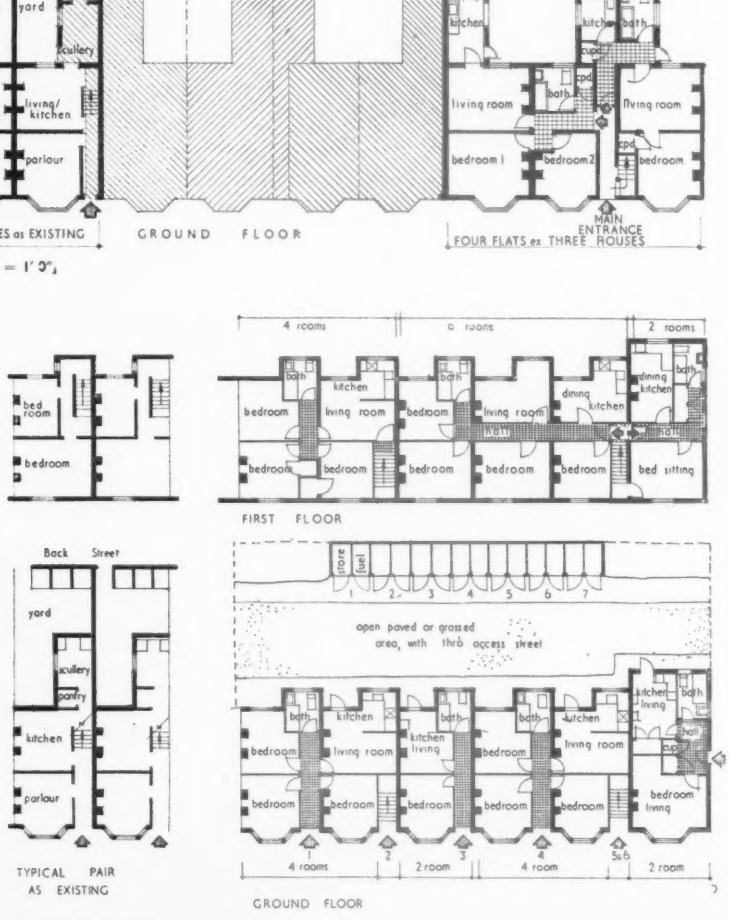
The promoters of these proposals claim that the conversions would provide reasonable quality flats in the centre of the town for half the capital cost of new housing, whilst absorbing approximately half the materials. *The Municipal Journal* also believes that the local authority is the best agency to initiate and carry out such work, since there are few landlords with the desire, or capital, to support this "area" development. From the aspect of economic rents, using Alliance Street as an example, the cost per flat is estimated at £700. 4¼ per cent. over 30 years would be equivalent to about £1 per week. There are many who cannot afford the post-war



[Scale : $\frac{1}{16}$" = 1' 0"]



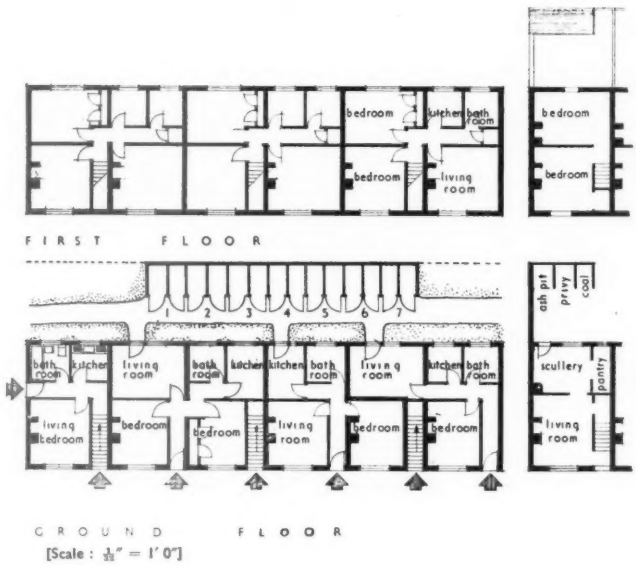
Another typical Stockton street where horizontal conversion is advocated by Raglan Squire. The houses here—Temple Street—are larger than in Alliance Street and out of three houses, four flats could be provided, as shown in the plans on the left. Old wash-houses, stores and W.C.'s are demolished to clear space for an open area.



[Scale : $\frac{1}{16}$" = 1' 0"]



The back of Walter Street—not unlike that of Alliance Street but at least a few small trees add humanity to the scene. The houses are very small and the yards also, judging from the bed sheet hanging on a line across the public way. These small houses restrict this method of conversion and six dwellings are needed for the creation of seven flats. This is not altogether a satisfactory solution and it is clear that there must be limits to the application of the principle.





Sun Street is less regular than the other examples. The dwellings are small and restricting—conversion will sweep away the yards but even so the communal area will be narrow and offer little scope for development. Here also the proportion of dwelling units gained to those houses used is only seven flats out of six. It is doubtful whether the financial outlay is justified in this case, particularly where the small communal area obtained makes any reasonable development within it all but impossible.

(subsidised) Council House rent of 25s. plus travelling expenses —and undoubtedly they would welcome the lower rent or leasehold purchase and their being within easy reach of the town centre.

The schemes themselves show that the principle of horizontal conversion works on a small-scale project, subject to limitation. It must be assumed that the estimates include provision for overcoming sound transmission, for without adequate insulation the whole system must fail.

In planning the flats themselves, the Walter Street scheme is less fluid than the other three examples—particularly where living rooms and kitchens are, to all intents and purposes, the same room. Considerable difficulties in furnishing as well as living in them is likely to be experienced, but the author of the scheme admits that the existing plan arrangement presents difficulties anyhow in repetitive flats.

The reclaimed communal areas are intended to be surfaced with paving or grass. Current practice suggests that grass in industrial areas is not practicable. In addition, the cost of suitable topsoil in large quantities is prohibitive—and little will survive in ground covered by buildings and yards for so many years.

Comments.—The factor most liable to criticism from the tenant's point of view must be the loss of privacy. If it can be avoided, the average tenant, by preference, would not lose this any more than he would his open fire. Call it what you will, but privacy is also as essential as are the new amenities to be gained at its expense. Can it be said, therefore, that the new communal areas outweigh this loss? The working man, and this goes for most of us, spends and enjoys much of his leisure time doing odd jobs to improve his home—he also has his chores, chopping firewood and the like. Does he go to his store across the way? And what of the lumps of coal and other rubbish which fall and are never picked up by the less conscientious? In fact, is this extra conversion-cost to provide five flats from four houses, or seven from six, plus open space and loss of privacy, a better proposition than the improved house, minus open space?

4 CONVERSIONS: THE BYE-LAW HOUSE

The Croydon Experiment

(Architects : Riches and Blythin)

THIS IS AN EXAMPLE OF PRIVATE ENTERPRISE improvement without the aid of Government assistance in any form. In a way it is unique because the tenants were invited to say what they wanted—and this was related to what they could afford. Federated Foundries Ltd., purchased (without possession) six terrace houses, Nos. 49 to 59, in Southsea Road, Croydon, built in 1880. (No. 59 has been kept outside the scheme, so far as results are concerned, as it was not in itself a complete dwelling.)

The purchase price of the houses was £850, an average of £142 per house. The main purpose of the operation was to provide a hot water supply, heated by an inset fire with back-boiler, a bathroom (bath, basin and w.c.) and an airing cupboard; and to discover how much it cost and what were the financial and other implications respecting both landlord and tenant. Although terrace houses, they were irregular in planning and the tenant was given the choice of three methods of providing the bathroom within his own home:

(*a*) As a built-on addition,
(*b*) In all, or part of, a bedroom, or
(*c*) In a vacant landing space or as part of the kitchen.

For each house these alternatives with supporting approximate costs were submitted to, and discussed with, the tenants —and as the whole operation was an experiment, they were advised that if final costs were less than the architect's estimates they would receive the benefit, but if costs were higher the landlords would bear the difference. Final results showed that only one scheme was under-estimated and represented 1s. per week on the rental. On completion of the work the tenants were to be offered their houses at a price equivalent to the original purchase, plus improvement costs, and possibly, a small additional sum which the private landlord could expect as a return.

How each tenant wanted the improvement is shown on the accompanying plans, and the costs involved are included in the table below. Although water rates were increased by ½d. per house, per week, these have been ignored in the calculation. In the case of No. 53, the tenant was unable to meet any increased rent and consequently the house remains as when first purchased.

Street numbers	49	51	53	55	57
Improvement costs ..	£165	£158	Nil	£107	£260
Weekly rent increase at 8 per cent. of cost ..	5s. 1d.	4s. 10d.	Nil	3s. 4d.	8s. 0d.
Rateable value inc. ..	8d.	8d.	—	4d.	1s. 0d.
Weekly inclusive rentals					
Before improvement ..	16s. 2d.	12s. 3d.	12s. 3d.	12s. 3d.	12s. 2d.
After improvement ..	21s. 11d.	17s. 9d.	12s. 3d.	15s. 11d.	21s. 2d.

If a grant had been applied for (50 per cent.) under the Housing Act 1949, and obtained, the inclusive weekly rentals after improvement would have been:

No. 49	18s. 9d.	No. 55	13s. 10d.
No. 51	14s. 9d.	No. 57	16s. 2d.

But present legislation, with its limit of a minimum cost of work at £150 would have excluded house No. 55. Repairs in themselves cannot, of course, qualify either for grant aid or justification for rent increase.

Capital Outlay and Return.—A. *Without Grant.*—With the cost of improvements to Nos. 49, 51, 55 and 57, totalling £690 the gross annual return at 8 per cent. is £55 4s. 0d. and over 40 years it would be £2,208. The benefit of freedom from grants is that the property remains freehold and can be sold to the sitting tenant, who, should he purchase, can sell with vacant possession.

B. *With Grant Aid.*—The original capital outlay is halved to £345 assuming a 50 per cent. grant, and at 6 per cent. per annum the gross annual return is £828. But once having accepted this assistance the dwelling must be available for letting purposes only—and the sitting tenant would be prohibited from the purchase even if he guaranteed owner-occupation. Unless, and until, the grant is repaid this stalemate exists.

From the standpoint of the local authority in this particular case, they will receive in the form of additional rates from these improvements (5 houses) over a period of 40 years about £270, whether or not a grant is made, and this is equivalent to more than three-quarters of the amount of the grant !

Repairs.—As Federated Foundries have pointed out, the landlord has little incentive to repair a house which sells for £142. In this case repairs and external decorations cost £160 —an average of £32 per dwelling. The answer seems to lie in the sale of the property after improvement. Taking No. 49 as an example, let us discover the market value related to overall costs. The latter works out as follows:

	£
Purchase price	142
Cost of improvements	165
Cost of repairs	32
Cost of internal decoration	26
	365

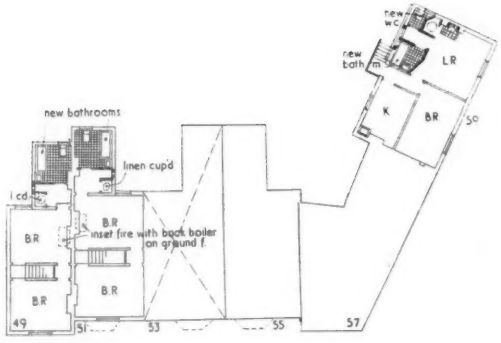
Without knowledge of the cost of repair and improvement, Messrs. Knight, Frank & Rutley were invited to prepare independent valuations and their estimates were:

Sitting tenant valuation	£400
Vacant possession valuation	£775

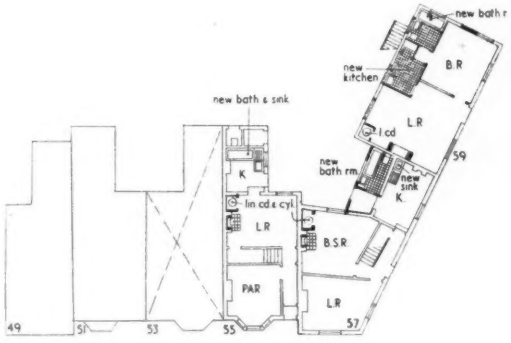
House purchase.—Again No. 49 was used as an example to illustrate house purchase with the assistance from (*a*) a building society and (*b*) a loan from the local authority under the Small Dwellings Acquisition Act. (In both cases legal charges were ignored.)



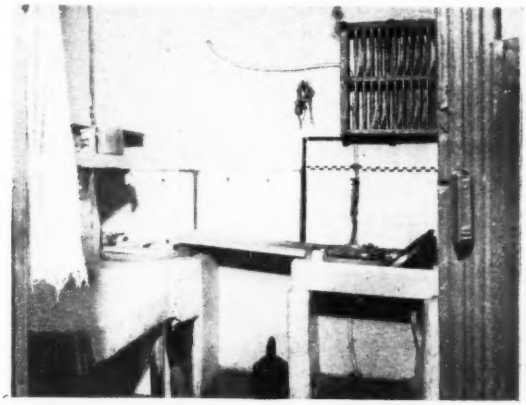
The group of houses bought by Federated Foundries Ltd. No. 49 is on the extreme left-hand side. The buildings were structurally sound but lacked the basic amenities.



First floor plan



Ground floor plan [Scale : $\frac{1}{16}$" = 1' 0"]





The plans on the left show the improvements made to the six houses purchased by Federated Foundries Ltd. The top photograph shows the kitchen of No. 55 before conversion, and the one below it after conversion, with bath and new sink fitted.

(*a*) *Building Society.*—Over the 20-year period, the tenant should have a minimum weekly income of about £5.

	£	s.	d.
Purchase price (say)	365	0	0
Society's loan..	350	0	0
Balance to be met by tenant-purchaser	15	0	0
Annual repayment at 12s. 10d. per £100	26	19	0
Weekly repayments		10	4
Revised increased rates		4	4
Total weekly outlay with amenities		14	8

After the inspection of the property by the Building Society's Surveyor, it was stipulated that the offer was dependent upon the brickwork being re-pointed—this would cost £50. Without pointing, the advance would be slightly less. There was difference of opinion whether the pointing was, in fact, necessary, but to compare it with the local authority loan, this figure should be added to the tenant-purchaser's deposit of £15.

(*b*) *Local Authority.*

	£	s.	d.
Purchase price	365	0	0
Loan (the l.a. can, under the Act, advance up to 90 per cent. of value, but only 80 per cent. is assumed here)	292	0	0
Balance to be met by tenant-purchaser	73	0	0
Annual repayment on an annuity basis charged at £1 18s. 5d. per quarter per £100	22	8	8
Weekly repayments		8	8
Revised increased rates		4	4
Total weekly outlay with amenities		13	0

Comments.—One item which has not been included in the assessment of capital outlay is the architect's professional charges. Assuming these to be 10 per cent., or perhaps 11 per cent. including expenses, plus a small amount for the survey, a figure of £20 might suffice in the case of No. 49 with an improvement by about 7d. making a total of 22s. 6d.—and would again reflect, to a small degree, in the home-purchasing figures.

But the interesting point about the whole experiment is that the tenant purchaser could buy his house in its improved condition at a weekly rate which would be less than the rent before improvement—assuming of course, that he can raise the difference between the purchase price and the mortgage or loan. The sky is soon clouded once again by the prospect of Schedule " A " for once the tenant purchaser becomes a landowner—but this is another facet which will be aired later in this series of articles.

Letters—*continued from p. 300*

Do Architects Want a Trade Union ?

SIR,—Your leading article concerning a negotiating body for salaried architects, which appeared in your issue of March 4, is interesting, but like the questionnaire and the accompanying report issued by the RIBA it is inconclusive. This, not because the intentions of the idea are not anything but good, but because there are so many factors involved that it might be difficult for sufficient space to be found to publish them or sufficient time for those concerned to read and analyse them, and thereafter for the analysis to be put forward in some concise and constructive way.

Your editorial, for instance, refers to the aim of the newly-qualified architect as being a private practice of his own, and then goes on to say that the attainment of that aim is now over, at any rate for a time, adding that many will remain salaried until they retire. But is the attainment of private practice still the aim of the majority? Your article is not entirely clear on this but suggests that it may be. It seems to me that in the interests both of the profession and the client, it should be.

In a letter which appeared in *The Financial Times* of February 25, a contributor complains that the architect s fee remains at 6 per cent., calculated now on building costs which have increased by 400 per cent. since 1939, and suggests the architect's overheads have not increased proportionately. That fee may seem high to the client, who apparently had built himself a £4,000 house, but he and others like him, coupled with the smaller industrialist who may once in twenty years require a new factory, constitute a dwindling number of the type of clients who seek the services of the private practitioner. The remainder of the work available is in the main carried out by local authorities and the architectural departments—we might call them factories of architects—employed by the large commercial and industrial organizations, as for instance the multiple and chain stores.

The result is that a dwindling amount of work is being divided among what may be an increasing number of private practitioners, if those in training are not absorbed into the large organizations which, by paying very modest salaries, are getting their architectural work done at cut prices. By this I mean that the combined salaries of their staffs must be infinitely less than the scale fees they would have to pay if they handed their work out to those in private practice, as they did in the past. I gather from those who have approached me in connection with employment that in these large organizations there is quite an amount of work available for the junior draughtsman, but that there is a shortage of work for the more senior man, which I suppose is reasonable having regard to the fact that the local authority can now build from any number of plans pulled out from the drawing files. Ultimately, this situation of less work among more private practitioners will mean they will all be barely covering expenses, or even making a loss, thus forcing more and more of them into salaried employment or, if they cannot find it, on to the bread line.

Architecture is, I suppose, still regarded as an art, and certainly the Charter of the RIBA provides that it should promote and facilitate the acquirement of the knowledge of the various arts and sciences connected with civil architecture. I suggest that the continuing increase of these large industrially-financed organizations is a trend in complete contradiction to the terms of this Royal Charter, and that therefore under the Charter the RIBA, assisted by the various other interested bodies and particularly the Architects' Registration Council, should attempt to discourage this trend and encourage the return to the private practice, thereby giving the architect greater opportunities of earning money and thereby leisure for the study of art, and also the wider experience which he must gain by dealing with the requirements of a variety of clients instead, for instance, of only small houses and blocks of flats for local authorities and chain stores for chain store owners.

If this encouragement of a return to private practice is desirable, it should not be difficult to achieve without the need to set up the cumbersome machinery of yet one more separate organization in the form of a trade union. The machinery is already available to the Architects' Registration Council inasmuch as that nobody may describe himself as an architect unless he be registered as such, and the retention of his name upon the register depends upon his compliance with the Code of Practice issued by the Architects' Registration Council. If that Code should lay down that no registered architect may take salaried employment unless he personally receives a specified salary, and unless also those others employed as junior and senior assistants in the organization are in receipt of salaries acceptable to their existing representative Bodies, it must automatically bring about the results which it is thought the proposed trade union might achieve. Furthermore, if it were laid down that the combined salaries of the group in which the registered architect finds himself employed should bear a percentage relationship to the contract value of the work carried out by that group, say 4 per cent. instead of 6 per cent. having regard to the fact that the employers pay rent and telephone, it would quickly discourage the formation of yet more groups, whose existing employers would I suggest tend once more to commission the private practitioner with the design of their new building projects.

Although at first such a suggestion would probably be immensely unpopular with the local authorities and other group employers, it is likely that in the end such an arrangement would pay them, because even should they pay the private practitioner 6 per cent., the ultimate cost to them would probably be no more, and indeed even less than it is now, because the private practitioner requiring to make a profit would not be cluttered-up with a top-heavy clerical and bureaucratical department, and innumerable inter-departmental memos. Furthermore, by the return of this work into the hands of the private practitioner, the overall turnover of all in the Profession would increase, and consequently it might then be possible to concede to the pleas of the correspondent whose letter was published in *The Financial Times* and reduce the percentage fees.

In any case, whether or not the move would be unpopular it would at least show courage, and bearing in mind such incidents as the failure to make any great impression on the War Damage Commission when the question of fees was discussed with them, this at least would be a relief. Admittedly in this circumstance it would require courage not only on the part of the Professional Bodies, but also on the part of the individual salaried architects who would be affected, but if effective results are to be achieved, strong mindedness and singleness of purpose would be required, irrespective of whether those results should be attained through some such proposals as those I have mentioned or through the projected trade union.

While it is problematical, and perhaps politically dangerous, to argue whether or not the trades unions have in recent times acted in the best interests of their members, the results they have achieved have certainly not been very spectacular, and it may well be that the intelligentsia, the rich or the exclusive—if architects can be said to belong to either of the latter two strata—might do well to avoid copying the organizations of the simple, the poor, and the *hoi polloi*, unless it be that by their recurrent inability to stand up for themselves architects really consider that they are in fact joining the ranks of the latter. If they still consider themselves among the elite of the intelligentsia, then even if they are neither rich nor exclusive they should at least have the intelligence to fight their battles by more subtle methods than those adopted by the masses.

London. C. A. V. SMITH.

Salaried Architects

SIR,—Objection has been made to my article, published in the JOURNAL of July 16, 1953, in which the earnings of a municipal office were measured against the RIBA Scale of professional charges and which showed a net profit to the Corporation of some 38 per cent. over four years. I agree that such a comparison is objectionable, to say the least. My difficulty was, and is, to prove the case beyond all question, and I could find no alternative. If my action in this matter has caused offence to the profession, I can only express my regret.

It is maintained by some that unless the net profit is about 33 per cent., then it is not worthwhile for a local authority or industrial organization to maintain such an office, apart from its convenience to the employer.

This argument is, I submit, both false and unjust to architects engaged on a salary basis. The RIBA Scale has been proved fair to both client and architect over many years. The effect of the above argument is to reduce the architect's gross remuneration from 6 per cent. to 4 per cent. Should the Borough or Chief Architect be correctly remunerated, then it follows that the staff must be even more seriously underpaid. In other words, there should be no such excessive margin of net profit on the earnings of an architectural office whether it is a Municipal or Industrial undertaking. Also, no capital risk involved in the industrial sense.

The real economy results from careful planning and design of the works required, not from underpayment of technical staffs to a degree whereby both study and experience become valueless.

DOUGLAS W. RICHARDSON.

Allied Societies: More Activity Please

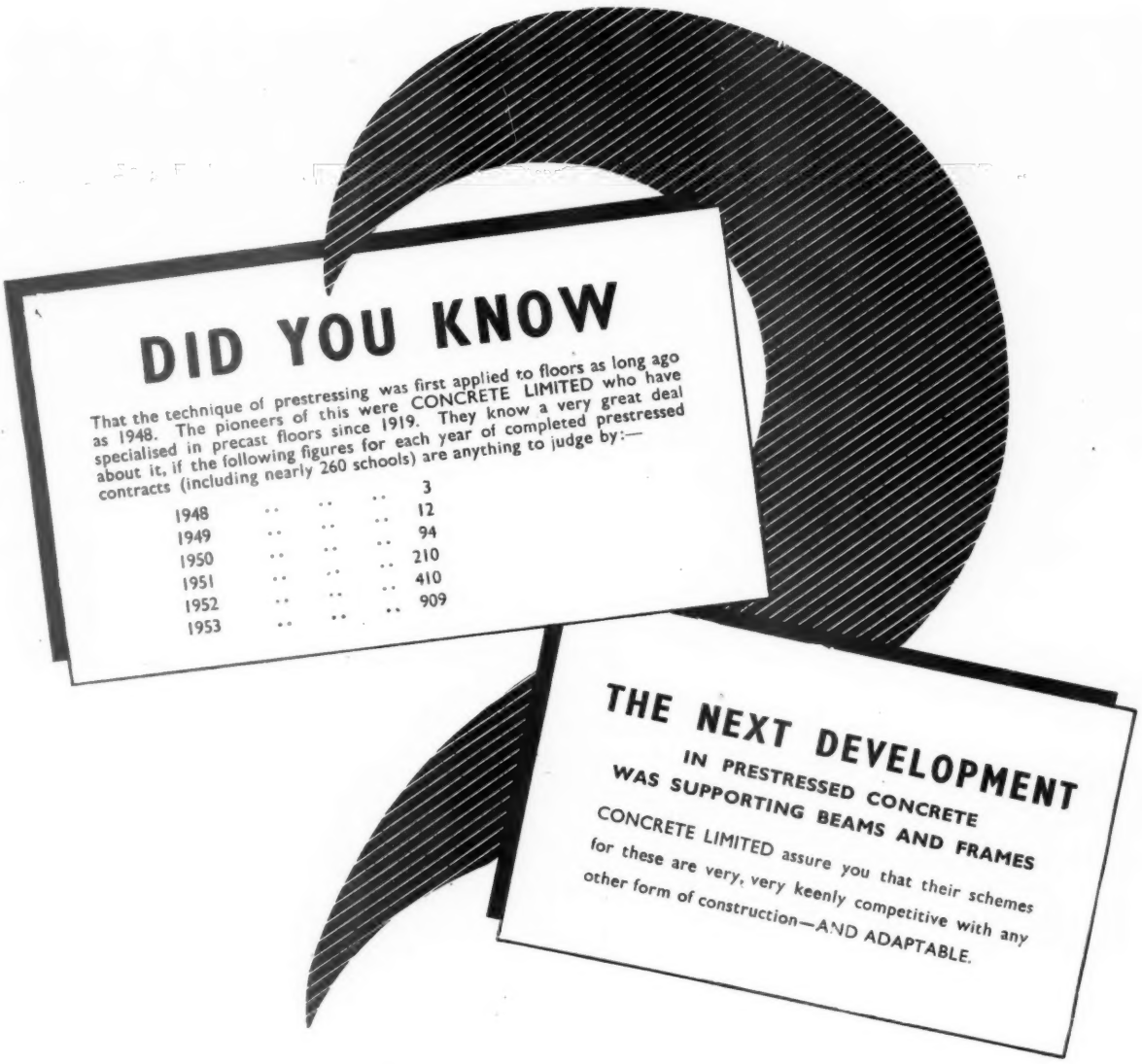
SIR,—Many architects in the provinces will soon be electing members to the councils of Allied Societies, and we hope that we shall see a lot more life in the provinces in future. Whilst it is inevitable that London should be the focus of the profession's extra-mural activities, it should not be forgotten that more than four-fifths of its members live and work in the provinces. It is up to us, therefore, to see that the profession is a lively and influential organ wherever its members happen to live. There is no gainsaying the fact that a more prominent place in local public affairs would benefit the profession as a whole.

Allied societies generally do a good job in organizing lectures for members, but is there not a strong case for other activities such as exhibitions (preferably in public places) and regular discussion groups? Exhibitions of live architecture should also form part of this activity. When a new block of flats in Birmingham, furnished in various ways, was thrown open to the public recently, more than 24,000 people visited it. This, plus the fact that the exhibition only lasted for a fortnight, shows that the public is by no means indifferent.

Such activities would stimulate both the profession and the public. Gentlemen of the Provinces, it is for you to vote.

"FOURTEEN ARCHITECTS"

The feature on a showroom in Lower John Street, contractors for which appear on page 324, has been held over until next week.



TRADE MARK
BISON FLOORS
SPEED AND STRENGTH

CONCRETE LIMITED

Specialists in Precast Floors since 1919

PRECAST HOLLOW FLOORS, BOTH R.C. AND PRESTRESSED
SINGLE SUPPORTING BEAMS OR CONCRETE FRAMES

LONDON
Green Lane, Hounslow, Middx.
Hounslow 0171

LEEDS
Stourton, Leeds 10
Leeds 75421

LICHFIELD
Dovehouse Fields, Lichfield, Staffs.
Lichfield 2404

FALKIRK
Etna Road, Falkirk
Falkirk 1585

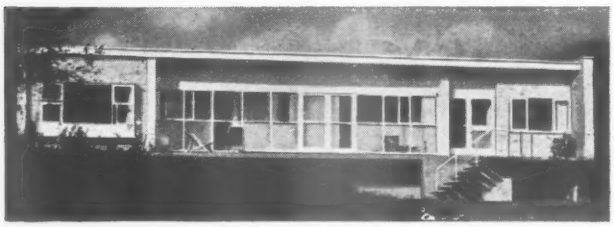
EDINBURGH
Sighthill Industrial Estate, Edinburgh
Craiglockhart 1729

ZINC in Zn plenty



TERRACE HOUSES AT COWLEY PEACHEY. *Architects—F. R. S. Yorke, F.R.I.B.A.: E. Rosenberg, F.R.I.B.A.; C. S. Mardall, A.R.I.B.A.*

Flashings and hoods, rainwater goods and weatherings — from roof to foundations zinc plays an important part in building. Our illustrations show contemporary houses roofed with zinc laid on the standing seam system. The roofing of the Cowley Peachey houses has an added interest because it has been laid on insulation boarding to combine good insulation with lasting protection.

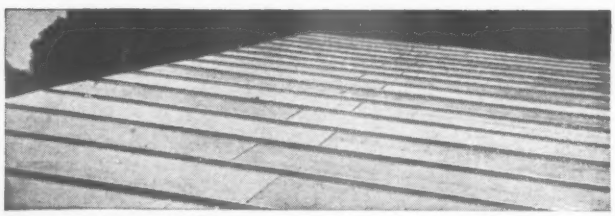


HOUSE AT LUCCOMBE, I.O.W. *View from South-west. Architect and owner—F. R. S. Yorke, F.R.I.B.A.*

There are now no restrictions on the use of zinc. Supplies are plentiful and are likely to remain so for many years to come.

The price of zinc has dropped considerably and it is again one of the most economical roofing materials.

The Zinc Development Association will be pleased to send to potential users lists of stockists of all zinc building materials and of firms specialising in zinc work.



View of standing seam zinc roofing.

ZINC DEVELOPMENT ASSOCIATION · LINCOLN HOUSE · TURL STREET · OXFORD · Tel. 47988

TECHNICAL SECTION

The Ideal Home Exhibition is an event which architects who design small houses regard with mixed feelings. In numberless cases the architect must have suspected that the first seeds of client-architect mistrust were sown by the client having seen some gadget there of which the architect knew nothing. There is no doubt that the Exhibition is being increasingly used for the first launching of domestic equipment, and for this reason we are arranging for Brian Grant to give a brief survey of this aspect of it in a forthcoming " Industry " review. But it may be said in advance that this year innovations are not startling: a little more room in a standard refrigerator (with extra headroom for the inevitable bottle of Hock), the griller of a cooker installed at eye level instead of below the hob, sometimes—alas—little more than new " styling." Since the jigs necessary for launching basically new designs in this field are expensive, we cannot expect a development which is both rapid and fundamental at the same time: but we cannot escape the impression that the main energy of manufacturers has been spent on producing what we may fairly class as luxury equipment, rather than on the more necessary task of making standard equipment less costly.

This week's special survey

14 CONCRETE
partial pre-stressing

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

This week our specialist editor on structural engineering discusses an interesting development in the use of concrete—namely the partial pre-stressing of members in conjunction with non-tensioned reinforcement. By comparison with the fully pre-stressed member there is a reduction in the amount of material used and a reduction of the safety factor against cracking, which might be of significance in regard to weather protection, but the ultimate failure values can be the same with both methods. Dr. Abeles has been mainly responsible for the development here described.

Previous articles in this section of the JOURNAL have described the various systems of pre- and post-tensioning and the composite type of prestressed precast unit with *in situ* topping. This article introduces " partial prestressing " which may be described as an intermediate stage between ordinary reinforced concrete and prestressed concrete.

Consider the basis of design of ordinary reinforced concrete. Generally speaking, we use a steel stress of 18,000 p.s.i. for mild steel and 27,000 p.s.i. for high tensile steel to ensure that under working load there will not be excessive cracking of the tension side of the member. In other countries higher stresses have been permitted with the use of specially deformed bars and great economy has been claimed in Sweden with small diameter deformed bars working at 40,000

BRITISH "SASCO" DOORS

Leaders in Quality for 30 years

★ **BRITISH "SASCO" PANELLED INTERNAL AND EXTERNAL DOORS TO BSS 459 Pt. 1, 1954**

Pattern 4 Doors :

Parana Pine Stiles/Redwood Rails

Parana Pine Timber throughout

Pacific Coast Door Stock for painting or staining and varnishing

IN FOUR VARIETIES OF TIMBER

★ **BRITISH "SASCO" INTERNAL DOORS**

Parana Pine Framing throughout,
Patterns 22, 44, 55, 66, 99

FIVE PRE-WAR PATTERNS

★ **BRITISH "SASCO" AND "MARVELITE" FLUSH DOORS**

FIVE TYPES OF FACES. FIVE TYPES OF CORES

★ **BRITISH "SASCO" DOORS**

Pre-war exterior range of patterns in Swedish Redwood

TWENTY PATTERNS AND SIZES

SEND NOW for illustrated list and prices. Special terms to merchants.

Order your Hardboard Flush, Plywood Flush and Panel Doors at the same time.

Have you got your "Sasco" door wall chart? If not—send us a P.C.

SOUTHERNS LIMITED

BOLD SAW MILLS, WIDNES

REGIONAL STOCKS AT: BRISTOL, DUDLEY, MANCHESTER, GLASGOW

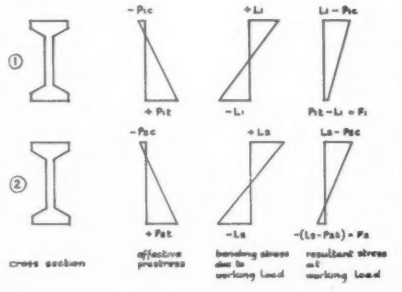
p.s.i. However, to ensure cracks of less than 1/100th inch it appears that this is an upper limit and no advantage at all would be obtained by using a higher tensile steel.

At the opposite end of the scale we have the fully prestressed section using steel of 100-130 t.s.i. ultimate strength where the occurrence of tensile stresses is excluded and there is no need to limit the steel working stress. The concrete used in prestressed work usually has a crushing strength of 7,000-8,000 p.s.i. at 28 days and the modulus of rupture corresponding to visible cracking is of the order of 900-1,000 p.s.i. If shrinkage cracks are avoided by careful curing, freedom from cracking can be avoided under loads which produce bending tensile stresses of 500-600 p.s.i. If then we have a material capable of resisting these tensile stresses why not take the full advantage of them wherever conditions permit? To answer this question we must classify different types of members as per the Report of the I. Struct. E. Committee and consider each separately.

Firstly there must be members fully prestressed which will not crack unless severely overloaded even up to the verge of failure. These are essential for liquid bearing structures and for members subjected to repeated heavy impacts to ensure an adequate factor of safety against cracking. (In this case once cracks have occurred continued impact would destroy the bond between steel and concrete.)

Secondly there can be members not so highly prestressed which will not crack until the working load is exceeded to some extent, *i.e.*, tensile stresses are allowed but are less than the modulus of rupture. Thirdly and fourthly are members with even less amounts of prestress, in the former temporary hair cracks are allowed under working load and close up on removal of same, in the latter visible cracks of 1/100th inch are permitted under live loads occurring frequently. The second, third and fourth types are employed generally but the type chosen for the particular case will depend on the frequency of load, the ratio of live to dead load, fire risk and corrosion.

Consider two beams each capable of taking the same maximum compression on the underside during the post-tensioning. Allow the first beam to have no tensile stress under working load and the second to have a tensile stress of the order of 500 p.s.i. The diagram shows the conditions prevailing in the two beams at various stages.



From the general equation for bending:— Bending Moment (M) = Modulus of Section (Z) × Extreme fibre stress; therefore the modulus of section = $\frac{\text{applied moment}}{L_1 \text{ or } L_2}$

In case (1) $Z_1 = \frac{M}{L_1} = \frac{M}{P_1 t - F_1} = \frac{M}{P_1 t}$

for most economic design.

In case (2) $Z_2 = \frac{M}{L_2} = \frac{M}{P_2 t + F_2}$

Now $P_1 t$ and $P_2 t$ were assumed to be equal, therefore it is obvious that a smaller modulus is required in case (2) than case (1), or, alternatively, with the same modulus in each case less prestress need be applied in case (2). Actually this also applies where the smaller modulus is used as the smaller modulus means a smaller section which in turn requires less prestress to achieve the same compression in the initial stage. The saving in cost is reflected throughout the whole process, less concrete, cheaper moulds, less wire and fewer anchorages.

Turning to the ultimate state of the beam prior to failure it has been proved in research tests that where a beam has well bonded wires the same ultimate bending moment is realized *whether the wires are tensioned or non-tensioned.* This leads to the fundamental difference between the partially and the fully prestresssed beam. Only sufficient tensioned steel is provided in the beam to satisfy the condition that the underside of the beam should be subjected to the accepted tensile stress under the working load, a further calculation is then carried out for the ultimate failure condition and the extra steel required to satisfy this is *not tensioned, i.e.*, there is now sufficient prestress to limit the tensile stress under working load bending moment M to, say, 500 p.s.i., so that no cracks occur at this stage but, with a safety factor of 2·5, the extra reinforcement required to act with the tensioned reinforcement in resisting 2·5 M is *not tensioned.* The non-tensioned wire can, of course, be added in the section of the beam only where it is absolutely necessary and does not have to run the whole length of the beam as does the tensioned wire.

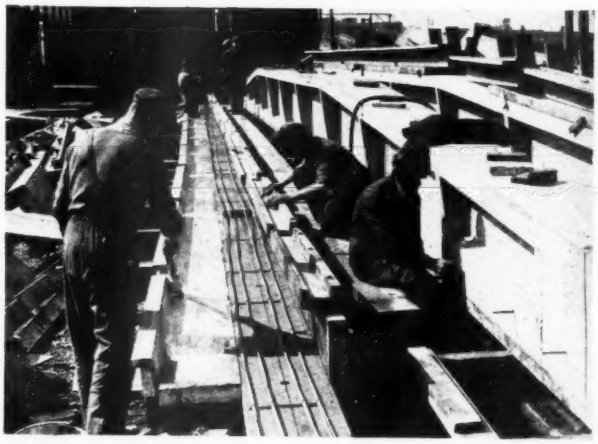
One of the disadvantages of the partially prestressed beam is that the reduction in prestress results in less resistance to shear. Unfavourable principal stresses may occur under working load and may necessitate the use of stirrups.

Summarizing the main points we have:—

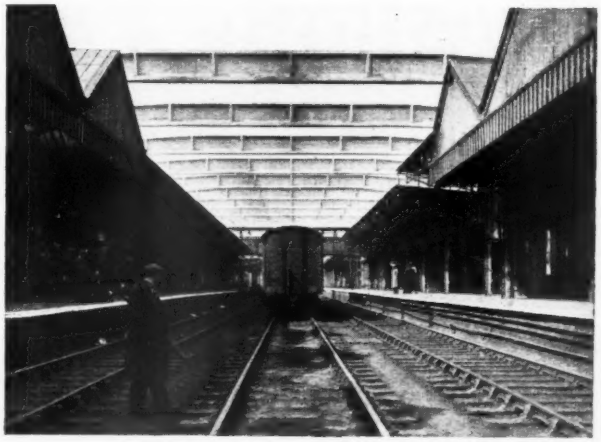
(*a*) It is possible with partial-prestressing to reduce the structural depth compared with the fully prestressed beam which may be of some importance architecturally, but in any case reduces the amount of materials employed. (*Continued on page* 321)



Engine shed under construction at Ipswich (1953) *using* 102 *ft. long partially prestressed beams at* 28 *ft.* 6 *in. intervals. The columns are* 64 *ft. apart and the beam cantilevers* 37 *ft. on one side.*



Sheffield Victoria Station. Beams 87 *ft.* 9 *in. long in course of construction.*



Sheffield Victoria Station, showing the partly completed conversion of the old station roofing. Partially pre-stressed beams of 87 *ft.* 9 *in. length span the tracks and platforms at* 25 *ft. centres and from these is suspended over each platform a canopy of patent glazing.*

[*photos: British Railways*]



phone PHOENIX of course!

THE PHOENIX TIMBER CO. LTD.

FROG ISLAND · NEW ROAD · RAINHAM · ESSEX · Telephone: RAINHAM · Essex 3311

A NEW HOLLOW PRECAST CONCRETE PILE



Stent Precast Concrete Ltd. have developed a hollow precast pile composed of various standard units post-tensioned to provide pile lengths from 40 ft. to 70 ft. in length. The main advantages of the hollow pile are as follows: 1. *For the same volume of concrete a much stronger hollow than solid pile can be made.* 2. *The sectional pile is flexible and economical in that standard units are available from stock and can be assembled quickly to any required length. No unit of more than ½ ton need be handled in the factory.* 3. *For the same strength of pile the hollow pile is lighter and more easy to transport. The pile section is 16 in. by 16 in. with a 12 in. core. Four basic units are employed, one head unit, one underhead unit and one toe unit being used in each pile with the remaining length made up in 5 ft. intermediate units. A spigot and socket joint is provided in the ends of the units to aid location during assembly. The handling prestress is applied through 0·2-in. diameter wires which pass from the head unit through the pile and are looped around an anchor bar in the toe. A simple anchor plate is employed in the pile head. The cables are grouted after stressing. Should the pile require to be lengthened during driving, mild-steel splice bars can be screwed into the head unit. Should the pile head have to be cut off after driving, the hollow underhead unit can be filled with concrete after splice bars have been inserted to tie up with the pile cap. In this case it would appear that the prestress would be in some doubt unless the grouting of the wires was particularly well done. As the extension units are of a standard size, 5 ft. in length, there may be wastage unless forethought is given to the manner in which the pile is to be connected to the pile cap, the alternatives being to cut off the head, screw in extension bars or deepen the pile cap.*

(*b*) While accepting tensile stresses, cracks can still be avoided either under (1) dead and live load, or under (2) dead load only with temporary cracks occurring under live load.

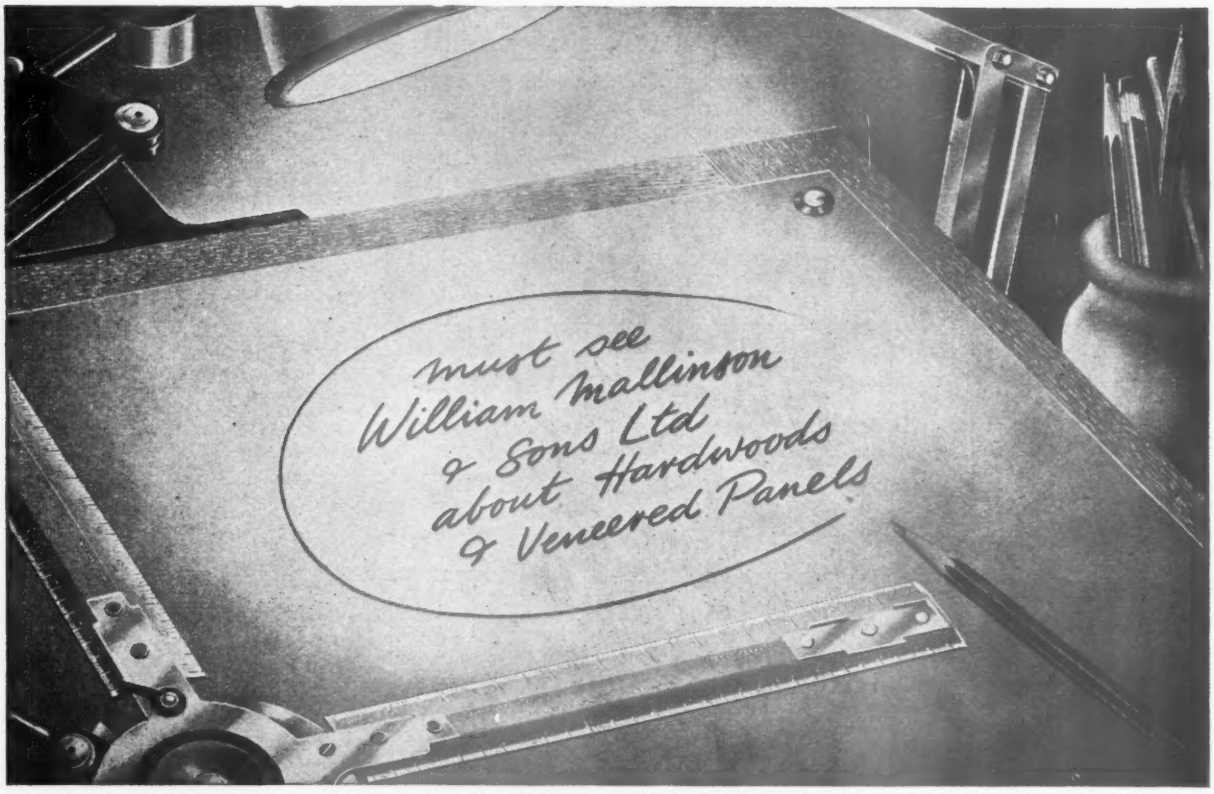
(*c*) The economy applies more to post-tensioning than to pre-tensioning, as the usual set-up for pre-tensioning work in long lines would involve no saving in anchorages and make the securing of the non-tensioned wire a tricky problem.

(*d*) The safety factor against cracking in the partially prestressed member is naturally reduced, but the same resistance to ultimate failure can be obtained as with the fully prestressed member. Greater resilience is, however, obtained and there is an earlier warning of collapse.

(*e*) There is some extra value to be obtained in applying partial prestressing to members which have to resist loads from any direction, *e.g.*, masts and poles; it is possible to reduce the prestress and thus avoid too high a compressive stress at working load.

(*f*) The method can only be applied to a complete member cast *in situ* or precast in one length, the system of post-tensioning a member of precast sections placed end to end cannot be applied as the mortared joints would open under tensile forces when the load is applied.

The idea of using tensioned and non-tensioned steel together was conceived by F. Emperger before World War II, though his aim was to reduce cracking in ordinary reinforced concrete. This has been developed during the last 12 years by Dr. Abeles as described in this article, and sufficient tests, both static and fatigue, have now been carried out to offset the early criticisms of the method.



WILLIAM MALLINSON & SONS LTD. 130-150 HACKNEY RD. LONDON E.2. *Tel:* **SHOreditch 7654 (10 lines)**

SAVED with the AID of



FEBMIX ADMIX MASONRY MORTAR

(Patent applied for)

MASONRY MORTAR IS MADE BY MIXING "FEBMIX ADMIX" WITH SAND AND CEMENT.

BECAUSE THE CEMENT CONTENT IS HALVED IN A STRAIGHT SAND AND CEMENT MIX, EACH ONE GALLON OF "FEBMIX ADMIX" USED SAVES A CLEAR 32/-.

WHEN IT IS USED IN THE PLACE OF LIME IN A MORTAR MIX, EACH ONE GALLON OF "FEBMIX ADMIX" SAVES A CLEAR 16/-.

"FEBMIX ADMIX" MASONRY MORTAR CAN BE USED FOR INTERNAL AND EXTERNAL RENDERINGS, FLOOR SCREEDING, FIXING TILES AND BRICKLAYING.

● IT COSTS YOU MONEY **NOT** TO USE IT ! ●

Write for technical brochure

Southern Office: TUDOR PARADE, LONDON ROAD, HOUNSLOW, MIDDLESEX. *Phone: HOU 0082*

FEB (GREAT BRITAIN) **LTD.**

Northern Office: ALBANY ROAD - CHORLTON-CUM-HARDY MANCHESTER 21. *Phone: Chorlton 1063*

INFORMATION CENTRE

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

3.28 planning: regional and national
POPULATION OVERSPILL

Problems of Overspill Population. D. W. Riley. (Planning Outlook, Vol. III, No. 1, 1952, pp. 17-26.)

Useful abridgement of a paper given at the Annual Meeting of the Institute of Housing on the problem, the resolution of which is a necessary foundation for so many development plans.

6.45 planning: social and recreational
OLDER HOUSES

The Housing Problem. Alasdair C. Sutherland (Planning Outlook, Vol. III, No. 1, pp. 27-40).

Sutherland, Assistant Editor of Planning Outlook discusses the policy issues behind the programme of modernizing sub-standard housing, now so much in the news.

7.41 practice
MUNICIPAL OFFICES ORGANISATION

Municipal Engineering Administration and Organisation. Rodney S. Offord. (Contractors Record Ltd. 1953.)

While chiefly of use to Municipal Engineers and Surveyors and to council and committee members this book may also be of use to architects working as assistants within Local Authority Offices.

10.109 design: building types
ELECTRICITY IN FARMS

Farm and Horticultural Installations. BS Code of Practice 325 (1953.) (British Standards Institution. 15s.)

A final Code of considerable value to those dealing with farm building. Main Code deals with general aspects while six sub-codes cover farm consumers' distribution, farm wiring, farm lighting, farm heating, farm motive power and horticultural installations.

13.115 materials: timber
WOOD IN HOUSES

Timbers for House Building. (Timber Development Association Ltd. 1954.)

A small guide to the use of woods in house work. Lists are under headings of use, such as ceiling joists, door frames, shelving, etc.; and a wide variety of timbers, in separate columns for softwoods and hardwoods is given. Recommendations for moisture content are said to be for finished products and "not necessarily the moisture content at which the raw materials can normally be obtained from the merchants." Perhaps this rather revealing note gives a clue to some of our troubles.

714.6 materials: concrete
CONCRETE FINISHES

Precast Concrete Facing Slabs. J. Gilchrist Wilson. (Prefabrication. Jan., 1954.)

Seven-page well illustrated article describing colour, texture and pattern possibilities of precast concrete slabs, the method of obtaining the various finishes and good notes and diagrams of various fixing methods. A useful article.

16.107 materials: miscellaneous
BUILDING BOARDS

Fibreboard and Chipboard. Collection of Articles. (Wood. Jan., 1954.)

A number of articles by different authors. The series covers manufacture properties and some uses. It gives a fairly good general picture of these materials and their properties, although in places it gives, perhaps, a somewhat rose-tinted view of their attractions and a tendency to ignore certain drawbacks.

18.146 construction: theory
STRUCTURAL DESIGN

Beam formulas. A. Kleinlogel. (Frederick Ungar Publishing Co., New York. 1953. $5.50.)

Companion volume of other Kleinlogel works which have been translated into the English language by Harold Lorsch. Contains more than 70 loading conditions of simply supported beams covering the range of loads which occur in practical engineering. Shears, moments and deflections can be calculated from the tables provided and the figures can be substituted in formulæ in Kleinlogel's "Rahmenformeln" to facilitate the solution of and the final moment diagrams of rigid frames.

18.147 construction: theory
REINFORCED CONCRETE DESIGN

Calculation, Design and Testing of Reinforced Concrete. K. I. Rao (Sir Isaac Pitman & Sons, Ltd., 1953. 35s.).

2nd edition of text book which gives a comprehensive coverage of the materials and design of reinforced concrete.

This edition has 424 pp. 19 chapters and 229 figs. and, as the previous edition, the majority of the contents do refer directly to concrete and provide the reader with something which is not just another book of structural theory. Additions include short notes on the ultimate design of singly reinforced beams, rigid frames, reinforcement around openings and shell roofs. It is unfortunate that the opportunity was not taken to include references to the latest LCC Byelaws and Code of Practice but otherwise it is to be recommended for students in advanced courses and as a reference work for young architects and engineers.

19.172 construction: details
TIMBER STAIRS

Holztreppen in Handwerklicher Konstruktion. Ulrich Reitmayer. (Julius Hoffmann, Stuttgart. 1953.)

This book forms a technical appendix to a series of Lectures on Timber Staircase construction delivered by the author to the Building School at Augsburg.

After an introductory chapter on design principles the various types of staircase and their component parts are discussed in detail. The illustrations, which consist of perspective sketches and working drawings to various scales are intended for use in the preparation of drawings for Joinery Workshops.

Though not of direct use to the English Architect, the drawings in this beautifully produced volume illustrate a standard in the detailing and setting out of timber stairs too rarely achieved in this country.

19.173 construction: details
SASH CORDS

Plaited Sash Cords (Hemp). BS 606:1954. (British Standards Institution. 2s.)

Revision of Standard published in 1935. Now covers only cords of hemp. There is no indication why cords of flax are now omitted. It would be helpful to be given some indication of the reason. Should we now refuse to use the flax type cords?

23.193 heating and ventilation
DISTRICT HEATING

A New Town in Sweden. (The Builder. Dec. 11, 1953.)

Describes the new satellite town of Vallingby to be built 10 miles west of Stockholm. District heating will be provided from a thermal-electric station which will assist in meeting the peak load on the electricity system in Stockholm. So far no large schemes of this type have been attempted in Britain, although they have been recently recommended in the report of the District Heating Committee of the Building Research Board. The operating results in Sweden should be of considerable value to those assessing the problem in Britain.

25.101 water supply: sanitation
SOIL AND WASTE PIPES

Soil and Waste Pipes Above Ground. British Standard Code of Practice. CP 304 (1953.) (British Standards Institution. 6s.)

Final Code. A very useful statement on the arrangement, sizing and fixing of soil and waste pipes. Very few offices could claim to know all the answers which this gives. The two-pipe, one-pipe and single-stack methods of drainage are described and illustrated by diagrams. Appendices contain tables giving the rates of discharge of fittings and pipe sizes for various discharges. Some of the diagrams could have illustrated good and bad points more obviously and it would have helped to have the diagrams alongside the relevant text.

F

Readers requiring up-to-date information on building products and services may complete and post this form to the Architects' Journal 9, 11 and 13, Queen Anne's Gate, S.W.1

ENQUIRY FORM

I am interested in the following advertisements appearing in this issue of "The Architects' Journal." (BLOCK LETTERS, and list in alphabetical order of manufacturers' names please.)

.....

.....

.....

Please ask manufacturers to send further particulars to :—

NAME.....

PROFESSION or TRADE

.....

ADDRESS.....

.....

11.3.54

Buildings Illustrated

Showroom for Darley Mills Co. Ltd., in Lower John Street, Golden Square, London, W.1. (Page 318.) Designer: Thomas Wolsey, M.S.I.A. General Contractor: J. W. Clifford Ltd. Sub-contractors: furniture (chairs), S. Hille & Co. Ltd.

Announcements

Ivor Hodges, L.R.I.B.A., has left the partnership of H. Fewster & Partners, by mutual agreement, and will commence practice on his own at 53, Highview Avenue, Edgware, where he will be pleased to receive trade catalogues, etc.

Harley B. Richardson, L.R.I.B.A., has taken Kenneth V. Shaw, A.R.I.B.A., into partnership. The practice will be continued under the style of Harley Richardson & Shaw, L./A.R.I.B.A., Chartered Architects and Surveyors at 3, Skinnergate, Darlington (Tel.: Darlington 5941).

Herbert Spink, F.R.I.B.A., has taken into partnership H. Reginald Hyne, A.R.I.B.A., and the practice is now being carried on under the style of Edgington, Spink & Hyne at 52, High Street, Windsor (Tel.: Windsor 248).

James Parker, L.R.I.B.A., John A. Hey, L.R.I.B.A., and John N. Rushworth, A.R.I.B.A., have entered into partnership and are practising from 5, Hall Street, Burnley, 25, Church Street, Colne, and New Market Street, Clitheroe, Lancs. The firm incorporates the practice of A. R. Gradwell & Sons, formerly of 17, Shawbridge Street, Clitheroe. Each office will be pleased to receive trade catalogues, etc.

A. J. Saise, A.R.I.B.A., and N. W. Curtis, L.R.I.B.A., have changed their address to 15, Robert Adam Street, Manchester Square, W.1. (Tel.: Hunter 0682), where they continue to practise under the style of Saise & Curtis, Chartered Architects.

J. L. Heap, A.R.I.B.A., has been appointed chief architect to George Calverley & Sons, Leicester, and will be carrying out the planning and designing of private housing and industrial estates. Mr. Heap will be pleased to receive trade catalogues at Evington Valley Road, Leicester.

As from March 25, Thurlow, Lucas & Janes, Architects and Surveyors, will be at 47, Temple End, High Wycombe (Tel. : High Wycombe 110, 2215/6).

British Insulated Callender's Construction Co. Ltd., recently moved to new premises at 30, Leicester Square, W.C.2 (Tel.: Trafalgar 7777).

R. G. Game has been appointed manager of the London office of The Express Lift Co. Ltd., of Greycoat Street, S.W.1.

A grant of £2,000 a year for the next seven years is being made to Birmingham University by the Dunlop Rubber Company. The main purpose of this grant is to establish a Dunlop Fellowship for research work on the chemistry of high polymers, including natural and synthetic rubbers, provision for technical assistance, and the purchase of apparatus not normally available.

Teddington Industrial Equipment Ltd., manufacturers of automatic control equipment, have opened a Midland Area office. This office will be in the charge of V. C. Miles and will be situated at 107, Dale End, Birmingham (Tel.: Birmingham, Central 4791 and 4792).

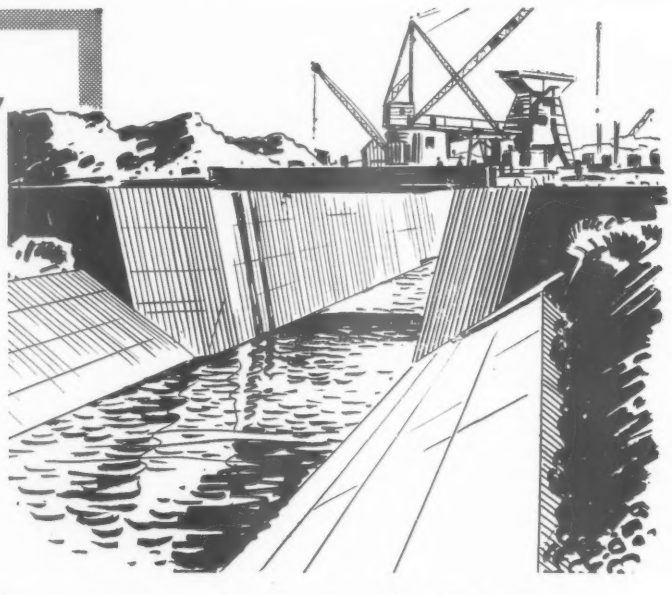
Sidney-Barton Ltd. have moved to Field House, 15-25, Breams Buildings, E.C.4 (Tel.: Chancery 9551).

in WATER supply

millions of

RAWLPLUG WALL PLUGS

fixing devices are used every year



From reservoirs to plumbing, Rawlplug Fixing Devices provide a host of absolutely firm fixings in minimum time. If you have a fixing problem write to our Technical Service Department.

Rawlplugs, Rawltools, Rawlbolts, Rawltamps, Rawlnuts, Bolt Anchors, Screw Anchors, White Bronze Plugs, Rawltoggles, Rawlclips, Cement in Sockets, Durium Drills and Hole Boring Tools for Hand, Electric Hammer or Pneumatic Hammer operation.

THE RAWLPLUG CO. LTD., CROMWELL ROAD, LONDON, S.W.7

B463

THE NEW IDEA IN CONTRACT CONTROL

Mere book recording of contracts is no longer sufficient for the progressive Architect.

A new method has been specially designed in conjunction with the profession to give him those essentials he MUST HAVE.

The overlapping visible edge shows at sight every undertaking (whether few or many) together with the progress of each contract, drawings and plans submitted, licences obtained, approvals from Public Health and Town and Country Planning Authorities.

Coloured signals pin-point urgent action, hold-ups, outstanding work.

Details of contractors involved, their estimates or tenders, costings, etc., are all controlled. Water, gas, and other services available, together with drawing office costs, estimates, fees, etc., are all provided for.

The records are housed in compact binders (or smaller portable panels if preferred). Records can be inserted or removed in correct sequence in a matter of seconds. And clerical labour is reduced to a fraction of the work in maintaining books and out-of-date systems.

Where preferred, records can be slotted in files which house the documents and correspondence, each file having a flat top across its full width for instant identification and job progressing, thus providing visibility PLUS filing.

This system is the outcome of considerable research into the difficulties and requirements of Architects and is worth considering in the light of your particular problem. Just jot "Architects Systems" on your letterheading for full details by return.

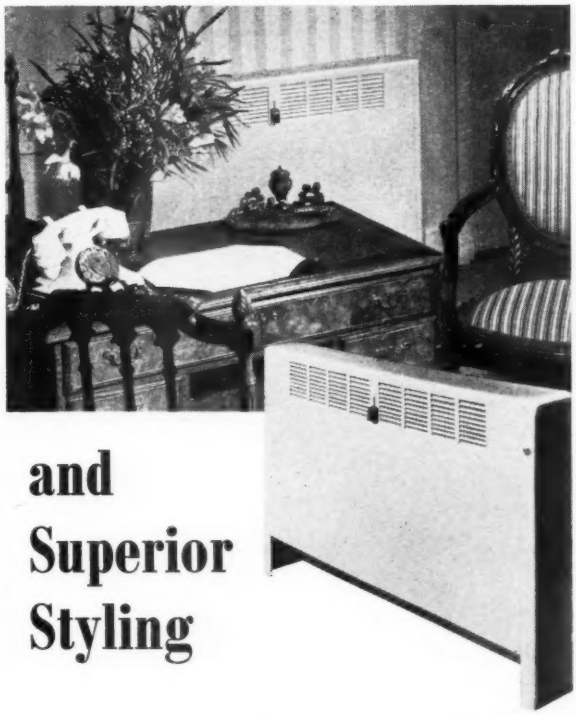
Shannon Systems

VISIBLY BETTER RECORDS

The Shannon Ltd.

39 Shannon Corner · New Malden · Surrey

Engineering Excellence—



and Superior Styling

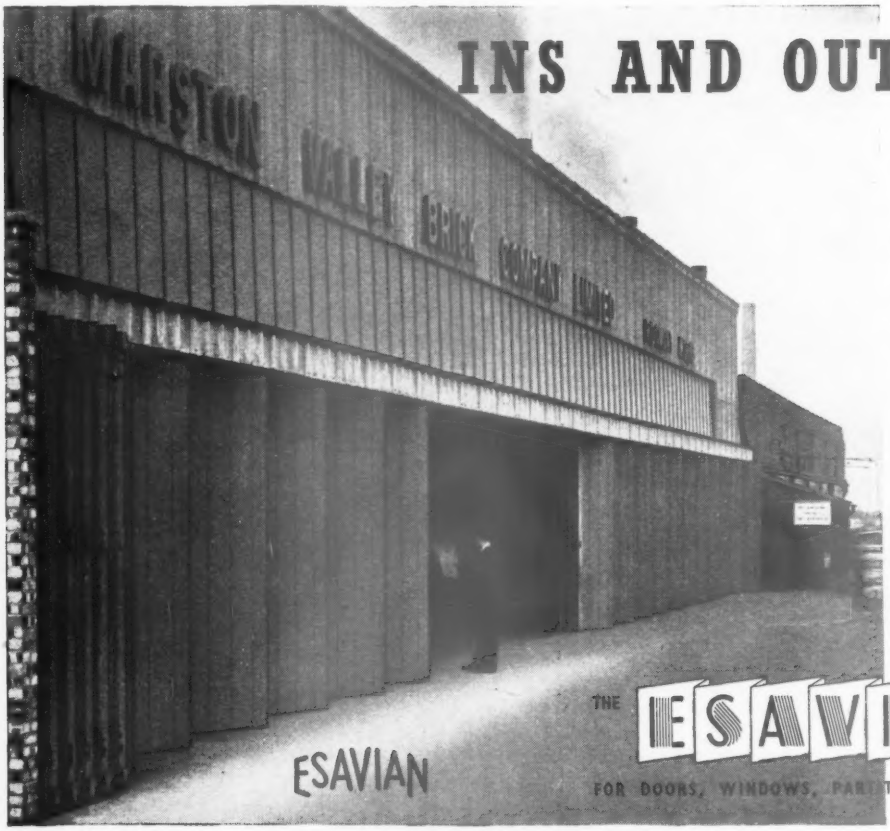
The re-styled Copperad Convector incorporates several new features, including a top regulating damper, *without extra cost*. The new model combines sound performance with outstanding appearance, and is available in many sizes. It is easy to transport and install; light in weight, yet of exceptionally robust construction.

Models are available for
HIGH TEMPERATURE HOT WATER
LOW TEMPERATURE HOT WATER
STEAM OR VAPOUR SYSTEMS

Copperad Convectors

Write for new illustrated literature (C.101) to
COPPERAD LIMITED
Head Office: Colnbrook, Bucks.
Tel. Colnbrook 203 (5 lines) Grams. Copperad, Colnbrook
LONDON OFFICE:
12, Baker St., London, W.1. Tel: Welbeck 1226/7
BIRMINGHAM OFFICE:
1/7 Corporation St., Birmingham 4. Tel: Midland 1553
SCOTTISH OFFICE:
30 Rutland Square, Edinburgh 1. Tel: Fountainbridge 6067

Representatives at BELFAST, BRISTOL, DUBLIN, LEEDS, MANCHESTER, NOTTINGHAM



INS AND OUTS! (No6)

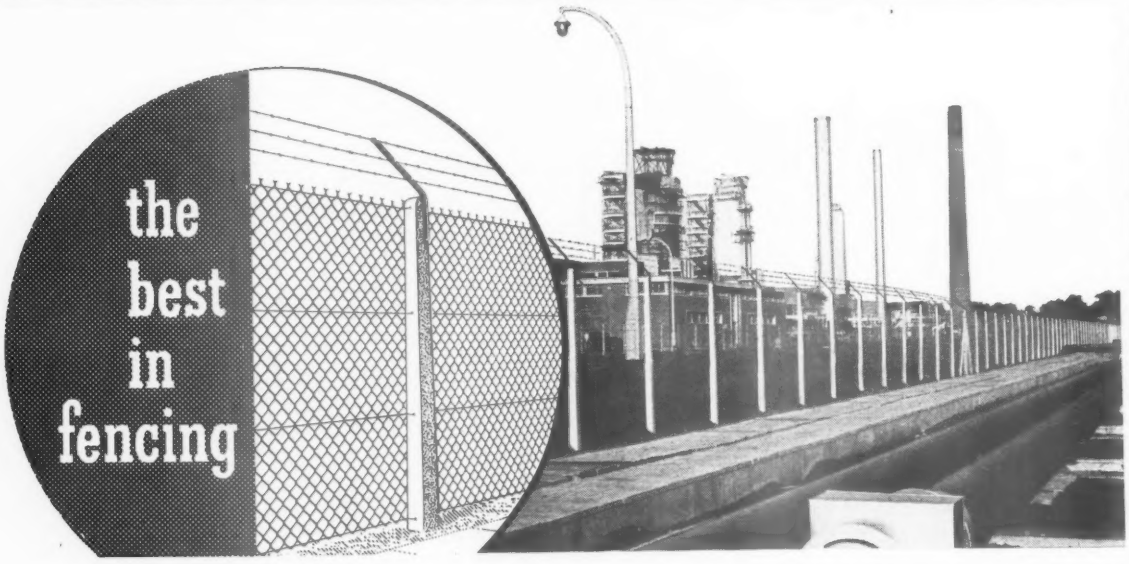
THE MARSTON VALLEY BRICK COMPANY knows all the "Ins and Outs" of making good bricks—and without straw too! But for the "Ins and Outs" of their new garage they relied on the knowledge and experience of the Esavian organization.

At the touch of a button these doors, measuring 144 ft. long x 11 ft. high, slide and fold clear of the entrance. Another touch of the button and they close securely against wind and weather.

When *you* have doors to deal with, call in Esavian. Our experts can be a great help!

THE ESAVIAN PRINCIPLE
FOR DOORS, WINDOWS, PARTITIONS & FOLDING SCREENS

Esavian Limited, Esavian Works, Stevenage, Herts. Tel: Stevenage 500. 101 Wellington St., Glasgow, C.2. Tel: CEN 2369



Manufactured and Erected by

PENFOLD

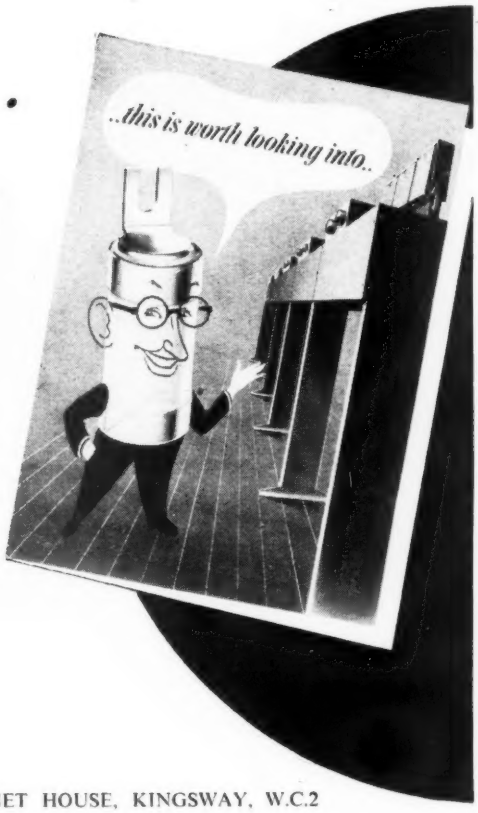
FENCING AND ENGINEERING LTD.

Once again another important fencing project is entrusted to Penfold—this time at Anglo-Iranian's Kent Oil Refinery nearing completion on the Isle of Grain.

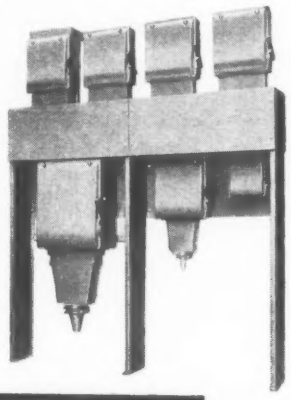
The 7ft. high Fencing, Reinforced Concrete Posts, Angle Iron Bent Heads and Fittings were all made at our Watford Factory and erected by teams of our specialist erectors.

IMPERIAL WORKS · BALMORAL ROAD · WATFORD · HERTS. *Telephone:* Watford 2241 *Telegrams:* "Penfold, Watford"

See for yourself . . .



THE M.W. RANGE. Are you seeing the new monthly bulletins showing the advantages and rather special features of G.E.C. Switchgear?
The latest one is full of useful information on the components of an M.W. industrial switchboard.
Send for publication X2378. For previous bulletins on switch fuses and fuse switches ask for publications X2286 and X2333.



ONLY A FITTER'S KIT OF TOOLS REQUIRED. The M.W. range of switchgear includes switch fuses and fuse switches, components and accessories for switchboards for all purposes up to 500 amperes.

G.E.C. THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, W.C.2

Another new Pynford method saves money!

The Pynford method of Underpinning has proved itself effective, inexpensive and a lasting cure for foundation failure . . .

NOW Pynford Jacking for correcting levels and the plumb of walls promises GREAT SAVING.

1 We don't know which to put first

1 Sunken corners can be jacked back

1 Tilted walls, including estate walls, can be made plumb

1 Monuments can be straightened and Historic Buildings preserved

1 Buildings large and small can be moved economically and safely

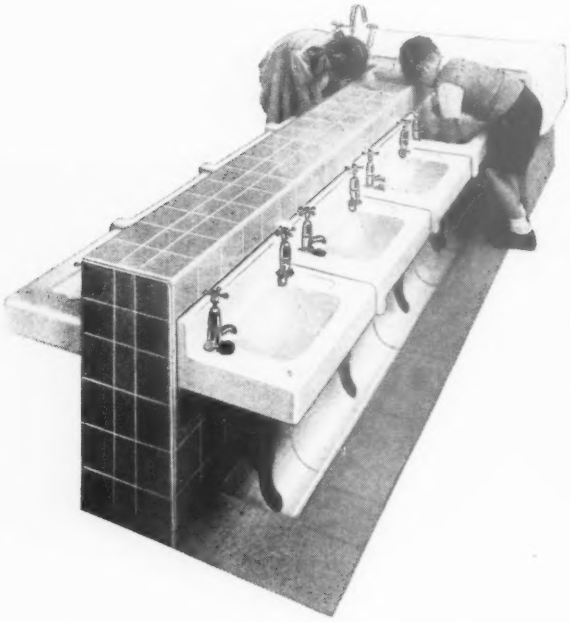
1 Finally, use the Pynford methods for correcting Mining Subsidence

Pynford Limited

Leading Underpinning Engineers and Contractors

74 *LANCASTER ROAD, STROUD GREEN, LONDON, N.4.*

Telephone : ARCHWAY 6216/7.



Serving the Needs of School Sanitation

From the Nursery Class stage onwards, where training in hygiene should begin, the importance of providing adequate and well-designed Sanitary Equipment has been more and more realised by educationalists and school planners in recent years.

This is a field in which the Royal Doulton Potteries have a long and unrivalled experience. Technical knowledge and skilled craftsmanship have been combined to produce designs in both fireclay-ware and vitreous china, representing the latest developments in modern sanitary practice.

The school of today demands Sanitary Equipment that is modern in design, attractive in appearance, and durable and hygienic in use. Royal Doulton Schools Equipment meets these demands.

Obtainable from leading merchant distributors

ROYAL Doulton

For further details, write to:
DOULTON & CO. LIMITED
Dept. BE, Doulton House, Albert Embankment, London, S.E.1

Royal DOULTON
SANITARY FITTINGS



Who gets frozen stiff at breakfast?

Let's be sensible about water heating. A boiler that heats the water but doesn't warm the kitchen is only half a boiler—as every architect knows—particularly if he is responsible for housing schemes. Specify Tayco and everyone will be pleased. Tayco heats the water efficiently with utmost economy of fuel. There is a complete range of nine boilers, including TWO WITH THERMOSTAT CONTROL, with seven capacities from 21,000 to 65,000 B.Th.U.'s per hour. Easy to clean, simple to use. ON APPROVED LISTS.

TAYCO
DOMESTIC BOILERS

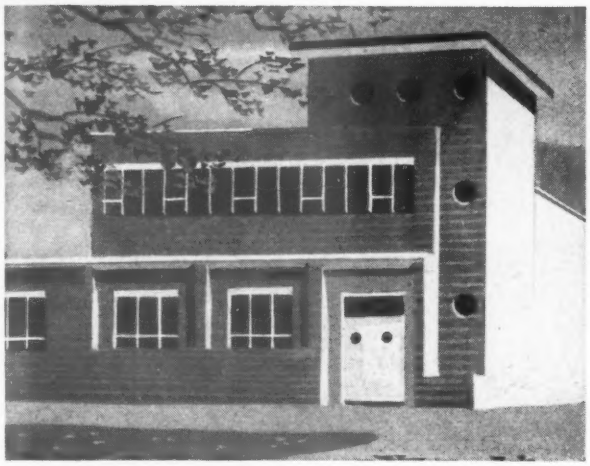
Hot water in comfort

Full technical information from:
ROBERT TAYLOR & CO. (IRONFOUNDERS) LTD
66, Victoria Street, London, S.W.1
Telephone: Victoria 3972
and at Larbert, Scotland

See our exhibit
USE THE CENTRE 26 STORE STREET W.C.1



Is your paint problem one of colour, texture or durability?



ALL three problems have their importance in relation to the job in hand. All three can be solved by the one range of products — the fine quality paint finishes made by John Hall & Sons (Bristol & London) Ltd.

BROLAC HIGH GLOSS ENAMEL PAINT for interior and exterior surfaces, is the most waterproof and weatherproof paint obtainable. It contains Hankol (based on Tung Oil—world-famous for its resistance to water) which makes it impervious even to sea air, city smoke and kitchen steam. By skilful blending of the Hankol medium with the best of the new alkyd resins, Brolac remains the finest protective high gloss finish while being one of the easiest and most economical to use.

MURAC MATT OIL FINISH provides a rich, 'dull-sheen', long-lasting surface that can be washed, rubbed and scrubbed without damage. The ideal finish for school and hospital walls, where very frequent cleaning is necessary.

MURAC P.E.P. — plastic emulsion paint (p.v.a.) — has all the useful characteristics of p.v.a. Emulsion *plus* an exceptional density which is due to its 100% content of primary pigment. Murac P.E.P. gives a fine-ground beauty of finish and 'dull-sheen' matt surface. Owing to its perfect intermixability it has exceptional colour selectivity, as shown by the 120 Colour System, in which 120 colour mixings are shown individually on a charted plan. Details available on request to our Sales Dept.

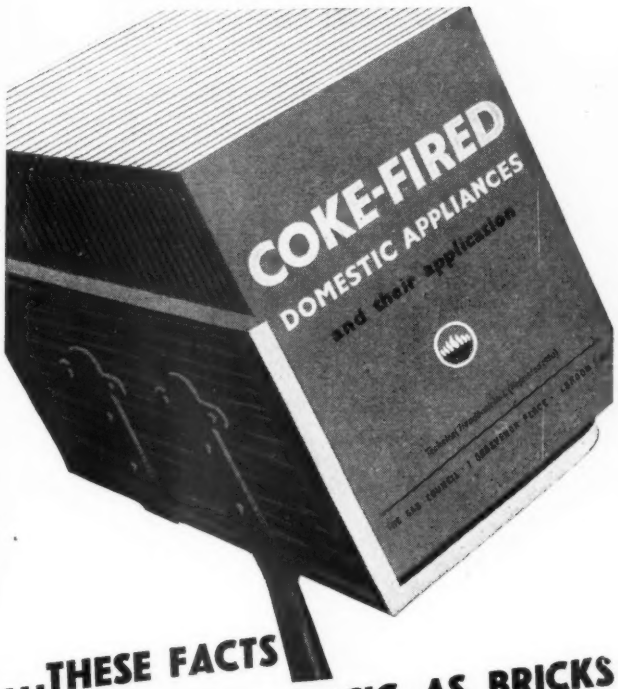
Specify the fine quality finishes of

JOHN HALL

& Sons (Bristol & London), **Ltd.**

JOHN HALL & SONS (BRISTOL & LONDON), LTD., HENGROVE, BRISTOL 4

WHEN YOU'RE PLANNING FOR BUILDING . . .



. . . THESE FACTS ARE AS BASIC AS BRICKS

New and improved gas coke-burning appliances are available which save fuel and money too. The Coke Department of The Gas Council, which is at the service of all coke users, has published all the facts required for good planning in this handbook. It can be had free, together with any specialised advice you may need, from your Area Gas Board or the address below—



TWO OTHER HANDBOOKS WHICH MAY HELP

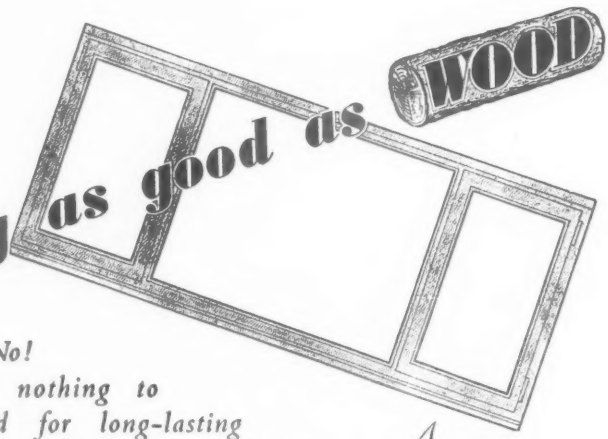
Coke-fired Central Heating Plant

Coke-fired Small Steam-raising Plant

THE GAS COUNCIL · **COKE DEPT**
1 GROSVENOR PLACE · LONDON · SW1

SBK
ESTABLISHED 1867
JOINERY

There's nothing as good as WOOD



No!
There is nothing to compare with wood for long-lasting quality and satisfaction. And generations of buyers for more than sixty years have found that wood is put to good account in the skilled hands of 'SBK craftsmen

The new 'Sunlight' Range lets in more light

SHARP BROS. & KNIGHT LTD.
BURTON -ON- TRENT

AL5157

On Guard

There is no "Changing of the Guard" with Dreadnought Doors. They are on duty twenty-four hours every day and night.

DREADNOUGHT
FIREPROOF DOORS

Are approved by the Fire Offices Committee and the London County Council for the protection of all openings where fire risks occur.

CATALOGUE ON APPLICATION



Door at the Tower of London.

DREADNOUGHT FIREPROOF DOORS (1930) LTD., 26 VICTORIA ST., WESTMINSTER S.W.1
Telephone: ABBey 1411

but naturally . . .

IT'S STEELWORK *by FINDLAY*

For Power Stations and Generating Plants, Refineries, Bridges, Steel Framed Buildings, Railway Sheds and Station Roofs, Findlay is prepared to meet your demands efficiently. Wide and long experience in the industrial Engineering and Constructional field assures clients the finest in planning and constructional engineering skill. If your plans call for new construction or expansion Findlay's will gladly advise you.

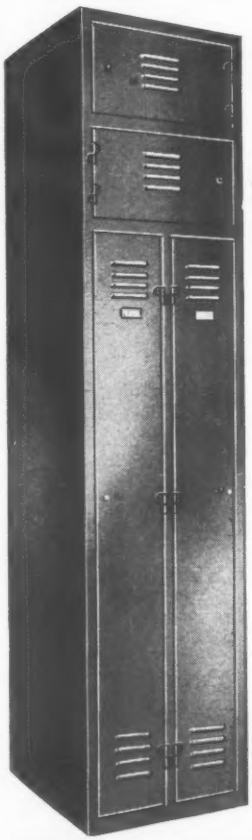
DESIGNERS · FABRICATORS ERECTORS

HEAD OFFICE:
PARKNEUK WORKS, MOTHERWELL, SCOTLAND
Phone: MOTHERWELL 496

LONDON OFFICE:
HIGH HOLBORN HOUSE, 52/4 HIGH HOLBORN, W.C.1
Phone: HOLBORN 7330



ALEX. FINDLAY & Co LTD
Structural Engineers
MOTHERWELL SCOTLAND



Save invaluable space with

Helmsman
TWIN TYPE
STEEL CLOTHES LOCKERS
(Patent No. 699842)

LIST PRICE
£4·15·0
per person
(£9-10-0 per Twin Locker)
★ Delivery Free in London Area.

★ These lockers provide separate accommodation for two persons and SAVE OVER ONE THIRD IN FLOOR SPACE. 60% MORE LOCKERS ON A GIVEN WALL AREA.

As the manufacturers, we can offer :

- Discounts for quantities
- Special quotations for complete installations
- Normal commercial credit terms to business undertakings
- Prompt delivery
- Choice of six colours.

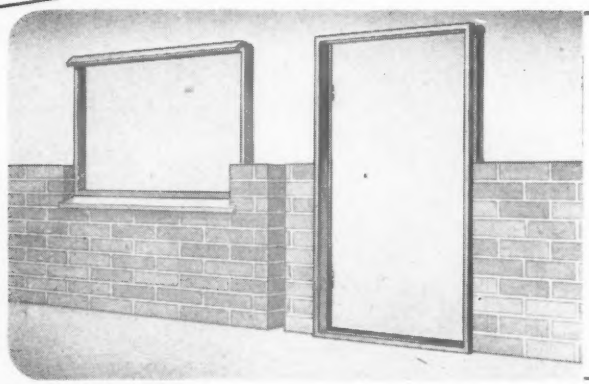
Standard size : 72″ high, 15″ wide (separate accommodation for two persons). Depths : 12″ 15″, 18″ and 20″ (the latter two sizes having rails for coat hangers.) Upper compartment can be opened only from inside corresponding lower compartment. Now fitted with SLIDEX HANDLE—chromium-plated and polished, with three point latching. Tamper-proof.

★ Mr. Quin at Larkswood 4411 will answer your enquiries.

HELMSMAN

W. B. BAWN & COMPANY LTD
BYRON WORKS, BLACKHORSE LANE, LONDON, E.17.

METAL TRIM?



DOOR FRAMES
WINDOW
SUB-FRAMES
CILLS

Ask

Write for full details and data sheets

Sommerfelds LTD. | LONDON OFFICE: 167 VICTORIA ST S.W.1 TEL: VIC. 8843 AND 1000
WELLINGTON · SHROPSHIRE TEL: 1000

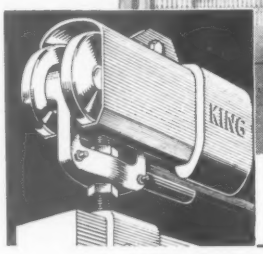
J.T.L.14

Here are the doors that run on the gear that **KING** *built*

A FURTHER KING INSTALLATION for a satisfied client in Bedfordshire. The doors shown here, typical of many up and down the country, are a good example of the rapidly increasing use to which sliding doors are being put. For ease of handling, for space-saving efficiency, sliding doors are the choice of builders and architects to-day. KING sliding door gear is precision-built to give years of smooth running, trouble-free life, and is proving its excellence in factories, hospitals, garages and private houses everywhere.

There's a KING door set for every need, for straight, folding, or 'Around-the-Corner' doors.





KING *Tubular Track, used for the door shown above. It is now made in seven sizes to support doors up to 40 cwt. per leaf.*

KING REGISTERED TRADE MARK

SLIDING DOOR GEAR *Covered by British Patents*

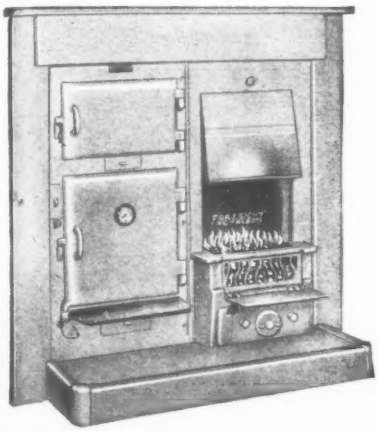
PLEASE WRITE FOR ILLUSTRATED BOOKLETS

GEO. W. KING LTD., 201 ARGYLE WORKS, STEVENAGE, HERTS. TELEPHONE: STEVENAGE 440

Announcing large reductions in the prices of the

"XL-TALBOT" COMBINATION GRATE

Rely on a Foresight



The "XL-TALBOT" is an entirely new design of the popular 38" × 38" Side-oven Combination Grate, being continuous burning on Coke, Coal or any other solid fuel. It gives an open or closed fire as desired, providing an abundant supply of hot water, with ample cooking facilities.

Approved by the Ministry of Fuel and Power

The above illustration shows this model with cast iron mantel and curb with solid doors which are finished in various attractive vitreous enamels. Lustre enamel finishes are also available. This model can also be supplied with Tiled doors, Hearth Tiles and all Tiled Surround.

Please write for full particulars and reduced prices to:

FORESIGHT GRATES

SAMUEL SMITH & SONS LTD.
BEEHIVE FOUNDRY
SMETHWICK, 41, STAFFS.

EZEE POINTS TO REMEMBER!



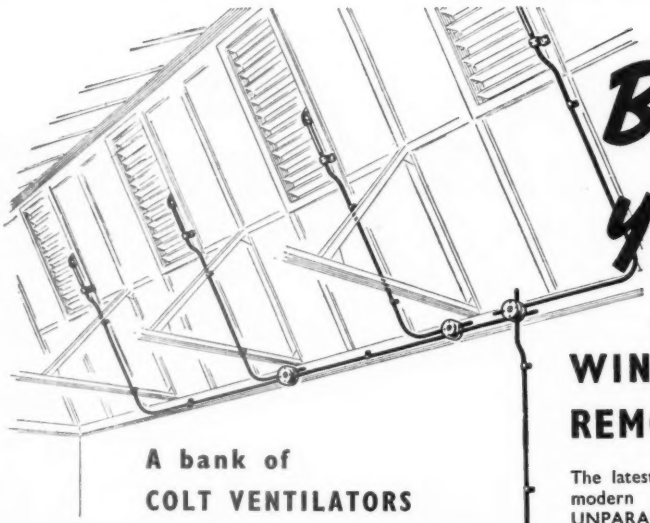
EZEE KITCHEN CABINETS MADE OF "ZINTEC" STEEL

EZEE Kitchens look new for years. Why? Because they are made of Zintec Steel (zinc coated steel) which is Bonderised and stove enamelled.
Steel cabinets are superior because they are more rigid and take a more durable paint finish.
EZEE double-fronted doors and drawer fronts are sound-deadened.

Daily Mail Ideal Homes Exhibition
Stand No. 100 Ground Floor, National Hall, Olympia, London.
March 2nd—27th, 1954.

Visit our showrooms or write for our latest brochure, T.1.

EZEE KITCHENS LIMITED
314a, SAUCHIEHALL STREET, GLASGOW
Telephone: DOUGLAS 4956
London Showroom: 8 LANSDOWN ROW (off Berkeley Street), W.1
Telephone: GROSVENOR 5068



Beyond your reach?

. . . not with TELEFLEX WINDOW AND VENTILATOR REMOTE CONTROLS

A bank of COLT VENTILATORS operated by TELEFLEX REMOTE CONTROLS

The latest Teleflex contribution to the demands of modern industry—a CONTROL SYSTEM OF UNPARALLELED SIMPLICITY. Although a relatively recent development, the entire control system is based on the huge success of Teleflex Remote Controls in the Aircraft, Marine, Vehicle and Mechanical Handling Industries. Our prices are very competitive and price lists are available for the guidance of buyers.

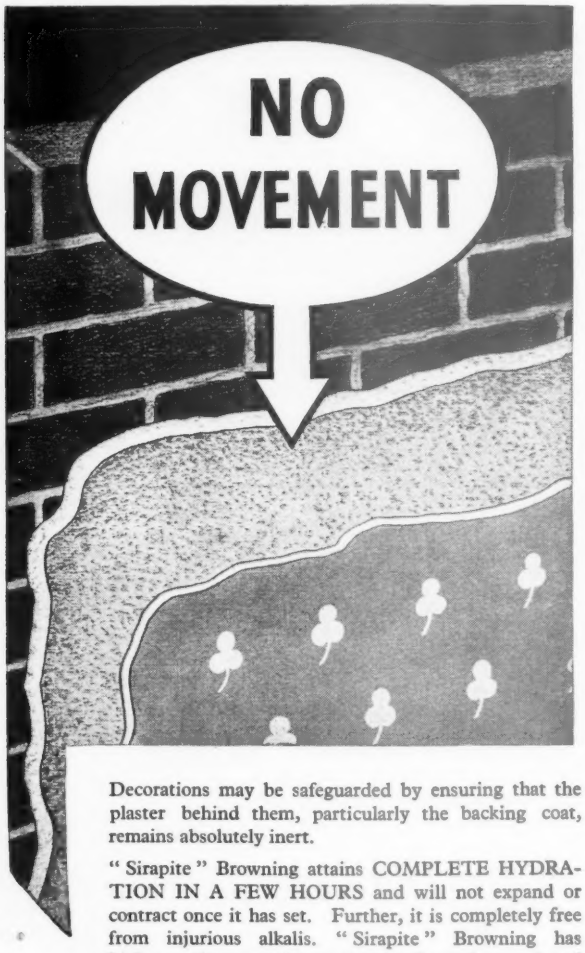




Send for the sample cable and folder illustrated on right and price list if required

TELEFLEX PRODUCTS LTD · CHADWELL HEATH · ESSEX
TELEPHONE: SEVEN KINGS 5771 (7 lines)

MANUFACTURERS OF THE TELEFLEX SYSTEMS OF CHAIN AND CABLE CONVEYORS



Decorations may be safeguarded by ensuring that the plaster behind them, particularly the backing coat, remains absolutely inert.

" Sirapite " Browning attains COMPLETE HYDRATION IN A FEW HOURS and will not expand or contract once it has set. Further, it is completely free from injurious alkalis. " Sirapite " Browning has high covering capacity, and good thermal, sound and fire insulating properties.

"Sirapite" (REGD) BROWNING

The Safe

PLASTER UNDERCOAT

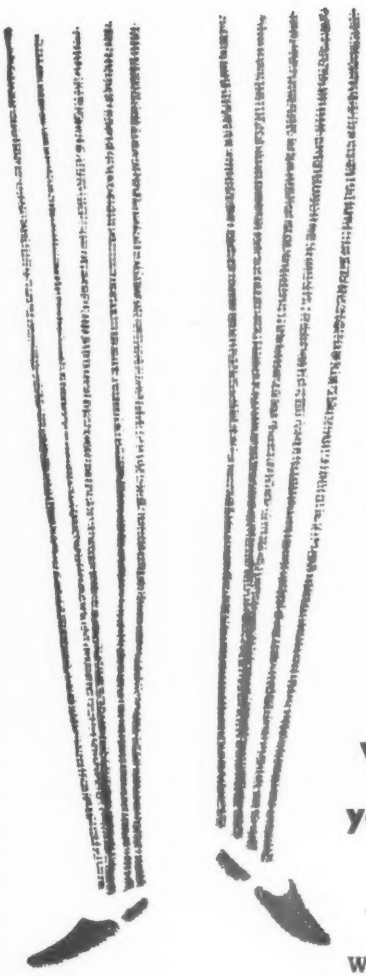
(Retarded Hemi-hydrate), Class B, type ' a '. Made by the makers of " SIRAPITE " (Anhydrous), Class C, " SIRAPITE " BOARD FINISH (Retarded Hemi-hydrate), Class B, type ' b ', MOUNTFIELD COARSE PLASTER (Hemi-hydrate), Class A. All conforming to B.S. 1191.

Full technical service available, including consultation on site

SPECIFICATION BOOKLET free on request.

GYPSUM MINES LTD

THE GYPSUM MINES LTD.
MOUNTFIELD,
ROBERTSBRIDGE, SUSSEX
Phone : Robertsbridge 80
and at Kingston-on-Soar, Nottingham



Whom can you rely on?

Who will do the best job of turning your designs for a showroom, foyer or boardroom into reality? You have your own list, of course, the ones you can really count on. But there is another name that is appearing on more and more lists—Catesbys Contracts. Utterly reliable; highly imaginative, yet with the grace to keep their imagination within bounds; craftsmen and proud of it. Have a word with them soon.



Catesbys

CONTRACTS & EXPORT LIMITED

TOTTENHAM COURT ROAD · LONDON · W.1 · MUSEUM 7777

Full Employment!

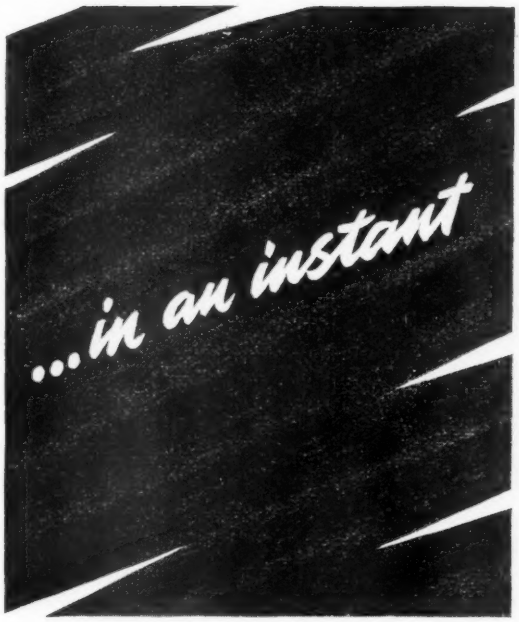
BRITAIN'S demand for electricity is greater than it has ever been; more factories and farms, more homes and offices are all using more—and they will require still more electricity in order to raise output and increase our standard of living.

To meet these needs, 40 new power stations have been brought into operation since British Electricity was established and the amount of power available has been increased by 50 per cent. But generating plant, which *could* work to capacity all day and night is *in fact* only required to give full output for short periods once or twice during the day.

If electricity were more widely used by factories, farms, shops, homes, offices and for street lighting—this would keep the generating plant more fully loaded. The demands on the power stations coming from these different classes of consumers would be diversified. That is to say the loads would not occur simultaneously but, in the main, at different times of the day—and continuous full output from the generating plant would reduce the cost of electricity.

BRITISH ELECTRICITY

ELECTRICITY PROSPERITY



An unexpected power failure can plunge you into utter darkness . . . Ediswan Ensuralite gives you protection at once by the automatic provision of emergency lighting.
EDISWAN Ensuralite consists of a lead-acid storage battery, equipped with an automatic switch and operating in conjunction with a high and trickle rate battery charger. The system is foolproof, independent of the human error, and absolutely reliable. The battery is maintained in a fully-charged condition by the normal power supply so that its total capacity is always ready for an emergency. Our technical Department will be glad to advise you and Catalogue AB1568 is available on request.

Equipment supplied conforming to all local regulations.

EDISWAN

Ensur-a-lite

The RELIABLE Emergency Lighting

THE EDISON SWAN ELECTRIC CO. LTD.
Ponders End, Middlesex Telephone: HOWARD 1234
Member of the A.E.I. Group of Companies T94

A *Flexible* P.V.C. TILE FREE FROM RUBBER

Fibrolene Flooring has proved, after rigorous test, to give complete satisfaction. Judge for yourself from these outstanding qualities.

High resistance to acids, alkalies, oils and greases.

Hard wearing, warm to the tread, fadeless, resilient, non-absorbent.

- FOR HOSPITALS
- KITCHENS
- LABORATORIES
- BATHROOMS
- CAR SHOWROOMS
- OFFICES
- MILK BARS



Imperial Chemical Industries Limited, Billingham Division Staff Canteen. Service Floor behind Cafeteria Counter

FIBROLENE FLOOR TILES

FIBROLENE, HARTFORD MILL, WESTON STREET, BOLTON, LANCS. PHONE: BOLTON 5000

AN ASSOCIATION OF ARTIST CRAFTSMEN

MAKERS OF PRINTING BLOCKS IN LINE
HALFTONE AND COLOUR
ARTISTS · PHOTOGRAPHERS



THE ENGRAVERS GUILD LTD

WINDSOR HOUSE · CURSITOR STREET · LONDON · E.C.4

Where are the **FIRE DETECTORS ?**





THE BUILDING CENTRE USE THE CENTRE 26 STORE STREET W.C.1

Although there is at least one automatic fire detector in each room of Hubbard's new store in Worthing, no unsightly fittings can be seen. Here, as in many other modern buildings, the flush-mounting Pearson detectors fit unobtrusively into the decoration scheme, attracting no notice—until fire breaks out.
Then, immediately and automatically, they fetch the Fire Brigade to the exact spot !
By this means the risk of serious damage is kept to the absolute minimum.

Write for further details.

ASSOCIATED FIRE ALARMS LTD
ST. ANDREW ROAD, WALTHAMSTOW, LONDON, E.17
79 West Regent Street, Glasgow, C.2 • 54 Halford Street, Leicester
SERVICE IN ALL MAIN CITIES

AFA

Hubbard's store, destroyed by fire in 1947, was rebuilt in 1950-53 to the designs of Messrs. Robert Sharp & Son, 13 Lower Belgrave Street London, S.W.1.

TAS/AF39



Photograph by courtesy of Ideal House Magazine

STEEL RADIATORS LTD
STELRAD WORKS • BRIDGE ROAD • SOUTHALL
Telephone : SOUTHALL 2603/4 Telegrams : STELRAD, PHONE, SOUTHALL

A New Book

THE ARCHITECTS' BOOK OF

ONE HUNDRED WALLPAPERS

HAS BEEN PREPARED BY

THE WALL PAPER MANUFACTURERS LTD.

AND IS NOW READY FOR ISSUE

INQUIRIES SHOULD BE MADE TO

The Wall Paper Manufacturers Ltd., Architects' Department: Kings House, King Street West, Manchester, 3, or to the London Office, 125, High Holborn, W.C.1.

YOU ARE CORDIALLY INVITED TO VIEW

AN EXHIBITION

demonstrating the use of these Wallpapers at 13, PORTMAN SQUARE, LONDON, W.1. (THE BRITISH COLOUR COUNCIL) 16th March to 26th March 1954. 10.30 a.m. to 4.30 p.m. Saturday excepted.

P145

NEW FLOORS FOR OLD

WE RENOVATE · REPAIR · RENEW

PARQUET FLOORS — STRIP FLOORS

RUBBER FLOORS — BLOCK FLOORS

JOINTLESS FLOORS — CORK FLOORS

ASPHALTE FLOORS — LINO FLOORS

IN FACT EVERY TYPE OF FLOOR

QUOTATIONS WITH PLEASURE

FLOOR SANDPAPERING MACHINES FOR HIRE

The very latest labour saving machines fitted with efficient dust collecting units and electric motors to suit all voltages

HIRE TERMS ON REQUEST

FLOOR RENOVATIONS LTD.

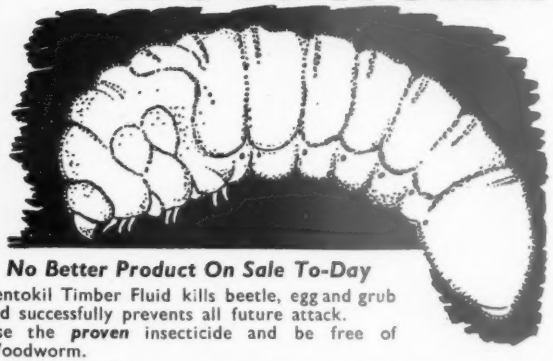
34-36 LAURISTON ROAD, LONDON, E.9

DEPT. 55 AMHERST 5471-2

RENTOKIL

TIMBER FLUID

KILLS WOODWORM



No Better Product On Sale To-Day

Rentokil Timber Fluid kills beetle, egg and grub and successfully prevents all future attack. Use the *proven* insecticide and be free of Woodworm.

For expert advice, write, call or phone:

WOODWORM AND DRY ROT CENTRE (15),

23 Bedford Square, London, W.C.1 *Tel:* LANgham 5455/6

RENTOKIL FURNITURE CREAM — *the insecticidal polish. Protects against Woodworm attack and in addition gives a beautiful, durable gloss with little effort—will not "bloom" or fingermark.*

RENTOKIL LTD.

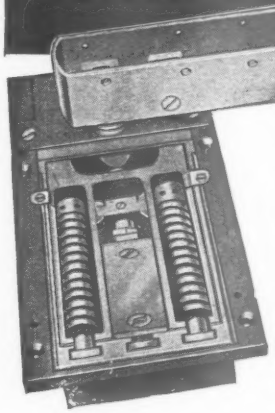
FETCHAM, LEATHERHEAD, SURREY

Telephone: Leatherhead 4021/2

Have you seen the NEW

VICTOR DOOR SPRINGS

WITH THE SELF-CONTAINED CHECK



FOR

PUBLIC BUILDINGS

HOUSING SCHEMES

OFFICE BLOCKS, ETC.

Shallow and watertight floor patterns. Overhead types to suit every purpose.

ALSO:

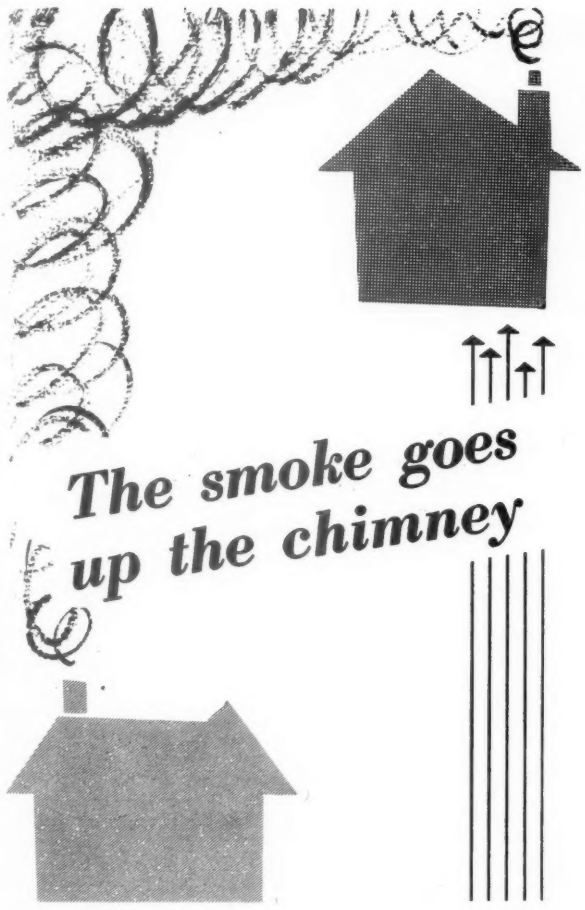
- WINDOW GEARING AND FANLIGHT OPENERS
- 'X-IT' PANIC BOLTS
- LOCKS
- DOOR FURNITURE
- CASEMENT FITTINGS
- SPRING SASH BALANCES

'Victor' Fittings are used throughout Gt. Britain.

ROBERT ADAMS (VICTOR) LTD.

139 STAINES ROAD, HOUNSLOW, MIDDX.

Telephone: Hounslow 5714

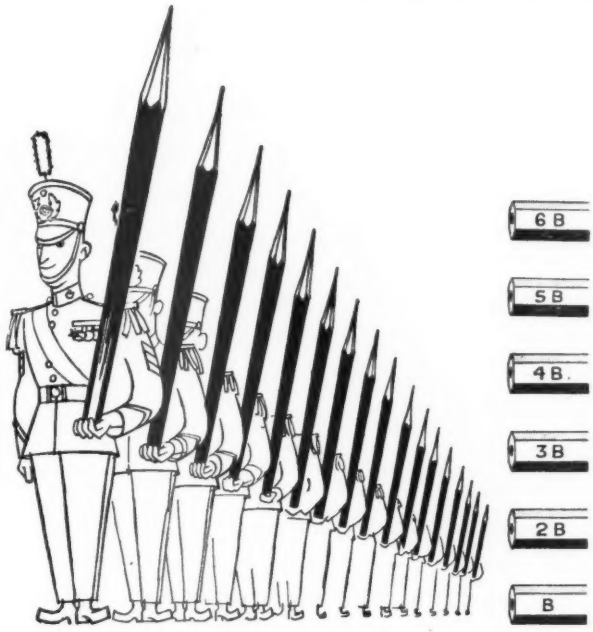


The smoke goes up the chimney

The smoke goes up the chimney, so does warm air, but need it? The Airdun Convector Fire traps waste heat in a specially designed jacket, giving warm air which is distributed to other points in the house requiring heat. Why not incorporate the AIRDUN Convector Fire in your future designs? We will be delighted to advise you regarding specifications, installation, etc.

AIRDUN CONVECTOR FIRE

For full particulars write to
ALEXANDER DUNN LIMITED
Uddingston, Scotland: Telephone Uddingston 500



always true to grading

Seventeen basic formulæ guarantee that TURQUOISE pencils are always true to grading, and the grades are as accurately and uniformly spaced as the inches on your rule.

100% "Electronic" graphite, refined in the Eagle attrition mill to 1/25000th" particles, makes the grading still more accurate. It also guarantees the smoothest, most flawless lead for easy working, and a uniformly black and opaque line for perfect reproduction.

You can be sure that every TURQUOISE pencil will give you exactly the line you want from every inch of lead every time . . . without constant snapping, too, because the more compact lead means greater point strength even with a needle point. No other pencil contributes so much to the success of your work. 7d. each; 6/6d. a dozen.

EAGLE

"CHEMI*SEALED" SUPER-BONDED

TURQUOISE

DRAWING PENCILS WITH
100% ELECTRONIC GRAPHITE

(T2)

EAGLE PENCIL COMPANY, ASHLEY ROAD, TOTTENHAM, N.17

The "ALL WOOD" HARDBOARD!



BUY WISELY ~ BUY RIGHT
YOUR PROBLEMS SOLVED
BY ~ FIBONITE

Sole Selling Agents in the U.K.

WM. BRANDTS (WALLPLY) LTD.,
36, Fenchurch Street, London, E.C.3.

DUNBRIK

THE PRECISION FACING BRICK

Introduced in 1934 and since specified by Government Departments, Local Authorities, Leading Architects, Builders, etc. Buildings faced with Dunbriks include Houses, Schools, Factories, Hospitals, Drill Halls, Cinemas, Flats, Office Blocks, etc.

Dunbriks are manufactured by:

London & Home Counties
DUNBRIK LIMITED, 26, Chilworth Street, London, W.2. 'Phone: Paddington 2471/2

Cambridgeshire, Hunts, Norfolk & Suffolk
ST. IVES SAND & GRAVEL CO. LTD., 24, The Broadway, St. Ives, Hunts. 'Phones: 2261, 2262, 2270 and 2279

Dorset, S.W. Hants, S. Wilts, S. & W. Somerset
W. E. MASTERS, Brick Manufacturers, Lytchett Minster, near Poole, Dorset. 'Phone: Lytchett Minster 291/2

Oxon, Berks, N. Wilts, Glos & N. Somerset
THE COTSWOLD BRICK & TILE CO. LTD., Standlake, near Witney, Oxon. 'Phone: Standlake 284

East & West Ridings, Yorkshire
DUNBRIK (YORKS) LTD., Stanley Ferry, near Wakefield, Yorks. 'Phone: Wakefield 3694

Counties of Notts, Lincs, Leicester, Rutland, Derby
THE HOVERINGHAM GRAVEL CO. LTD., Hoveringham, Notts. 'Phone: Bleasby 242

Scotland
SCOTTISH DUNBRIK LTD., 250, Alexandra Parade, Glasgow, E.1. 'Phones: Bridgeton (Glasgow) 1818; Dundee 81673

Ulster
DUNBRIK (ULSTER) LTD., Doagh Station, Co. Antrim, N. Ireland. 'Phone: Doagh 59

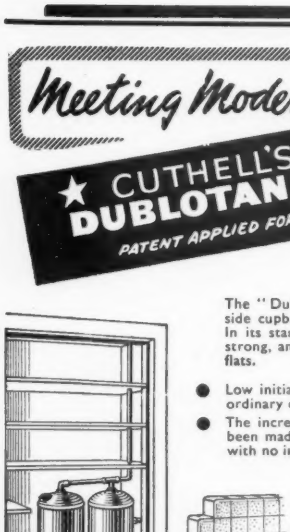
Beauty · Economy · Permanence · Uniformity

Meeting Modern Requirements

★ CUTHELL'S **DUBLOTANK**
PATENT APPLIED FOR

IS SUITABLE FOR INSTALLATION IN BUILDINGS WITH

HEAD OF WATER UP TO *10 FLATS!*



The "Dublotank" is designed to fit into narrow fireside cupboards, and only needs a wall depth of 11in. In its standard form, the "Dublotank" is extremely strong, and is suitable for a working head of up to ten flats.

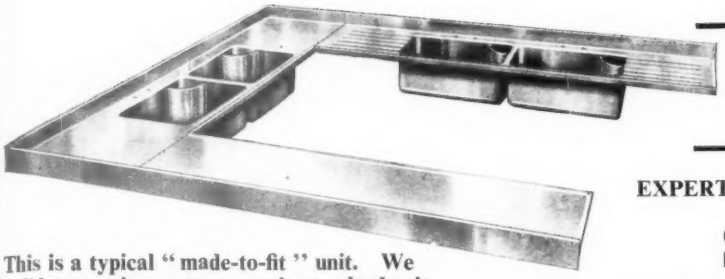
- Low initial cost. Costs only a few shillings more than ordinary circular tank of equal capacity.
- The increased strength of the new "Dublotank" has been made possible by new methods of manufacturing with no increase in price.
- Designed to fit any fireside cupboard, thus giving higher efficiency because of short flow and return piping from the boiler.
- Suitable for installation in buildings with head of water up to ten flats.
- Is supplied with standard immersion heater boss and plug; fitted felt lagging now part of standard model.

SPECIFICATION

Size.—41in. high by 24in. wide, by 11in. back to front, and made to British Standard Specifications. Maximum test pressure 100 lbs. per square inch. Unit complete with three 1in. tappings for flow, return and hot drawoff, also one 2¼in. tapping with plug for immersion heater.

D.M.CUTHELL & CO. LTD.
"QUICKHEAT" COPPER BOILERS
34 QUEEN STREET, EDINBURGH
PHONE: CALEDONIAN 7285





This is a typical "made-to-fit" unit. We build to requirements or supply standard units.

"ASSOCIATED METALS" Product

EXPERTLY FABRICATED IN

STAINLESS STEEL

SINKS, SINK UNITS & RANGES, TABLE TOPS, SHELVING, TANKS, DUCTING, ETC.

Please ask for Catalogues.

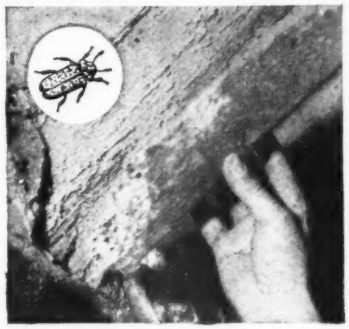
Associated Metal Works
(GLASGOW) LTD.
30 ST. ANDREW'S SQUARE, GLASGOW, C.1.

LONDON: 7 Grosvenor Gardens, S.W.1. *'Phone:* VICTORIA 1977/8

'Phone: BELL 2004/5 *'Grams:* "STAINLESS, GLASGOW" And at BIRMINGHAM · LIVERPOOL · NEWCASTLE · BELFAST and DUBLIN

FOR
ARCHITECTURAL
PHOTOGRAPHY
In the North East of England

PHILIPSON STUDIOS
20, Oxford St., Newcastle upon Tyne 1
Telephone Newcastle 27281



Expert treatment of

timber decay

The insidious workings of the Death Watch Beetle are often not apparent until serious damage has been done. Only the scientific use of a penetrating and persistent insecticide will eradicate these borers. "WYKAMOL" polychlornaphthalene can be confidently recommended and the experience and technical skill of our staff is at your disposal.

Send for free Technical Brochure: "The Control of **INSECT** and **FUNGAL DESTROYERS OF TIMBER.**"

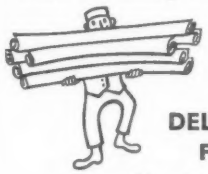
A rafter in the roof of **Chichester Cathedral** *showing damage by the Death Watch Beetle.*

For advice and further details write to:

RICHARDSON & STARLING, LTD.
Member of the British Wood Preserving Association
HYDE STREET · WINCHESTER · *Tel.:* 2537

TO SURVEYORS ARCHITECTS ENGINEERS . . .

We have enlarged the Plan Copying Department at our City Office for dealing with Plans from Architects' Tracings.



We can offer you

DELIVERY THE SAME DAY FOR URGENT ORDERS.

All work executed on the premises.
Large stocks of all kinds of Drawing Office Materials always available.

CENTRAL DRAWING OFFICE
(C.D.O. LTD.) GROUND FLOOR
Salisbury House, London Wall, London, E.C.2.
Telephone: MONARCH 1691-2-3.



'GOBLET' WASTE

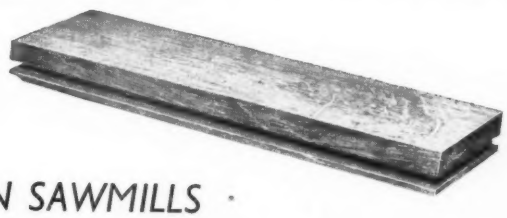
BARKING BRASSWARE CO LTD

Write for folder

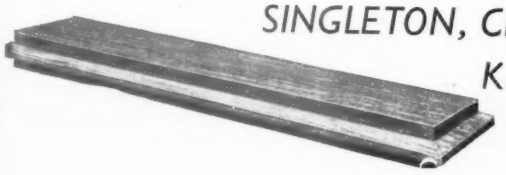
BARKING BRASSWARE CO LTD · RIVER ROAD · BARKING · ESSEX

For high-class flooring blocks and strip flooring in all timbers.





J. H. and F. W. GREEN LTD., CHARLTON SAWMILLS · SINGLETON, CHICHESTER (Singleton 232/3). The selection, Kilning, and manufacture are entirely controlled on the same premises



CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

25s. per inch; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

WEST SUSSEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of an ASSISTANT COUNTY ARCHITECT at a salary in accordance with Grade X A.P.T. Division (£920-£1,050) of the National Scales of Salaries.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than 19th March, 1954.

T. C. HAYWARD,
Clerk of the County Council.

County Hall, Chichester.
19th February, 1954. 1827

CITY OF PETERBOROUGH.
CITY ENGINEER'S DEPARTMENT.
APPOINTMENT OF ASSISTANT CLERK OF WORKS (HOUSING).

Applications are invited for the above appointment at a salary in accordance with Miscellaneous Grade III (rising from £396 to £460).

Applicants must have a thorough knowledge of all branches of the building trades, be competent in the reading of plans, bills of quantities and specifications, setting out of works and site measurements, supervision of work in progress and submission of progress reports.

Applications, stating age, experience and qualifications and giving the names and addresses of two referees, must be received by the City Engineer & Surveyor, Mr. F. J. Smith, M.B.E., A.M.I.C.E., Town Hall, Peterborough, not later than 19th March, 1954.

Canvassing, directly or indirectly, will disqualify. Candidates must disclose whether they are related to any member or senior officer of the Council.

C. PETER CLARKE,
Town Clerk.

Town Hall, Peterborough.
February, 1954. 1828

CITY OF ROCHESTER.
ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the City Surveyor's Department, at a salary in accordance with Grade IV (Administrative, Professional and Technical Division) of the National Scale of Salaries, viz. £580-£625 per annum.

Preference will be given to candidates who have passed the Intermediate Examination of the Royal Institute of British Architects.

A good general experience is desirable, particularly in the preparation of drawings and specifications for Municipal Housing Schemes. A knowledge of quantities would be an advantage.

In an appropriate case the City Council will provide the successful applicant with suitable housing accommodation.

The appointment will be subject to :—

(1) The Scheme of Conditions of Service of the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services.

(2) The Local Government Superannuation Acts, and the successful candidate will be required to pass a medical examination.

(3) One month's notice on either side

Applications, stating age, qualifications and experience, together with names and addresses of three persons to whom reference may be made should be delivered to the City Surveyor, 66, Maidstone Road, Rochester, not later than 17th March, 1954.

Canvassing, directly or indirectly, will be deemed a disqualification, and applicants must state whether to their knowledge they are related to any member or senior officer of the Council.

JOHN H. A. CRUNDELL,
Town Clerk.

Guildhall, Rochester.
22nd February, 1954. 1843

TRACER (WOMAN) required by the CROWN AGENTS FOR THE COLONIES for Drawing Office. Commencing pay between 116s.* 1d. and 134s. 10d. a week, according to age, rising by annual increments of 5s. a week to 147s. for 45½ hours week. Hours: 9 a.m.—5.30 p.m. (12 noon Saturdays). Paid holidays at rate of 18 days a year, inclusive of one Saturday morning (half day) off per month. Refreshment club on premises—low charges for lunch and tea. Candidates must be 21 years of age or over, and preference will be given to experienced Tracers. Write, stating age and experience, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting 0/225/AG. 1917

COUNTY COUNCIL OF STIRLING.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments in the County Architect's Department :—

(*a*) TWO SENIOR ASSISTANT ARCHITECTS. A.P.T., Grade VIII (£795-£870).

(*b*) THREE ARCHITECTURAL ASSISTANTS. A.P.T., Grade Va (£660-£720) to Grade VII (£745-£820) (according to experience).

(*c*) THREE ARCHITECTURAL ASSISTANTS, ONE CIVIL ENGINEERING ASSISTANT. A.P.T., Grade I (£490-£535) to Grade V (£630-£680) (according to experience).

Candidates for (*a*) and (*b*) must be Associate Members of the Royal Institute of British Architects and have good experience in contemporary design and construction of Schools and General Buildings, preparation of working drawings, and supervision of building works.

Candidates for (*c*), Grades III, IV, and V, should have passed Intermediate R.I.B.A., and applicants for Grades I and II should be quick and accurate draughtsmen, having completed the recognised apprenticeship.

(*d*) ONE SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T., Grade VIII (£795-£870).

(*e*) THREE ASSISTANT SURVEYORS. A.P.T., Grade Va (£660-£720) to Grade VII (£745-£820) (according to experience).

(*f*) TWO JUNIOR ASSISTANT SURVEYORS. A.P.T., Grade I (£490-£535) to Grade V (£630-£680) (according to experience).

Candidates for (*d*) and (*e*) should be Associate Members of the Royal Institute of Chartered Surveyors, and have wide experience in the preparation of estimates, specifications, schedules of quantities, re-measurement and final accounts for general building works. Preference may be given to applicants with experience in School Buildings.

Candidates for (*f*) should preferably have passed the Intermediate R.I.C.S. and have a sound basic training in the profession.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will require to pass a medical examination.

Applications, stating age, qualifications, experience and post applied for, accompanied by copies of recent testimonials, should be lodged with the undersigned not later than 29th March, 1954.

JAMES D. KENNEDY,
County Clerk.

County Offices, Viewforth, Stirling. 1907

CITY AND COUNTY OF BRISTOL.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the under-mentioned permanent staff appointments :—

(*a*) SENIOR QUANTITY SURVEYOR. Grade A.P.T., VII (£735 to £810 p.a.).

(*b*) SENIOR ASSISTANT ARCHITECT. Grade A.P.T., V (£620 to £670 p.a.).

(*c*) ASSISTANT ARCHITECTS. Grade A.P.T., II (£520 to £565 p.a.).

(*d*) JUNIOR ASSISTANT ARCHITECT. Grade A.P.T., I (£490 to £535 p.a.).

(*e*) JUNIOR ASSISTANT. General Division (£170 at 16, rising to £470 per annum at age 30).

(*f*) QUANTITY SURVEYOR'S ASSISTANT. General Division (male) (£170 at 16, rising to £470 per annum at age 30).

Salaries quoted are those applicable at 1st April.

Candidates for appointment (*a*) must be Members of the Royal Institute of Chartered Surveyors (Sub Division III, Quantities) or equivalent; for appointment (*b*) must be Associates of the Royal Institute of British Architects or equivalent; for appointments (*c*) and (*d*) must have passed the Intermediate Examination of the Royal Institute of British Architects or equivalent.

Further particulars and application form obtainable from me. Applicants must state post for which they are applying. Completed forms must be received by 20th March.

J. NELSON MEREDITH, F.R.I.B.A.,
City Architect.

The Council House, College Green,
Bristol, 1. 1922

BOROUGH OF BEXLEY.
ASSISTANT ARCHITECTS.

Applications are invited for the following posts in the Borough Engineer & Surveyor's department :—

Two ASSISTANT ARCHITECTS (General)—one at a salary within Grade A.P.T. V (£620 × £15 (2) × £20—£670 per annum) and the other at a salary within Grade A.P.T. Va (£660 × £20—£710 per annum) plus London Weighting allowance in each case.

Forms of application with Conditions of Appointment may be obtained from Borough Engineer & Surveyor, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by Friday, 19th March, 1954.

Canvassing directly or indirectly will disqualify.

W. WOODWARD,
Town Clerk

Council Offices, Bexleyheath, Kent. 1865

BUCKS COUNTY COUNCIL.

Applications are invited for a male JUNIOR LAND SURVEYOR in the County Architect's Department. Applicants should be studying for the R.I.C.S. examinations. Salary will be in accordance with the General Division scale (£295 p.a. at 21, rising to £470 p.a.).

Application forms giving details obtainable from County Architect, County Offices, Aylesbury, and returnable by 19th March, 1954. 1889

BRACKNELL NEW TOWN.

Applications are invited for the following appointment :—

ARCHITECT. £1,010 × £40 × £50—£1,100. To take charge of a small section engaged on projects within the proposed Town Centre. Applicants should be corporate members of the R.I.B.A. with considerable experience in the design and construction of shops, offices and public buildings.

Superannuation schemes. Medical examination. Housing available in due course. Apply by 19th March, 1954, giving age, education, qualifications, experience and appointments held (with dates and salaries) and two referees, to General Manager, Bracknell Development Corporation, Farley Hall, Bracknell, Berkshire. 1883

GOLD COAST LOCAL CIVIL SERVICE.
TOWN PLANNING OFFICERS, GOLD COAST.

Vacancies for Town Planning Officers exist in the Local Civil Service of the Gold Coast. Appointments are on contract for two tours of 18-24 months each in the salary scale £1,180 to £2,020 per annum gross, point of entry determined by qualifications and approved experience. A gratuity of £37 10s. for each completed three months' satisfactory service also payable.

Free first-class passages are provided for the officer, his wife, and children up to three in number under the age of 13. Government quarters, if available, are provided at a rental of £75 to £90 per annum. Leave is granted at the rate of seven days for each month of resident service after a tour of eighteen to twenty-four months.

Candidates, who should be under 45, must hold the qualifications of A.M.T.P.I. (or a recognised exempting qualification), and either A.R.I.B.A., A.M.I.C.E., or A.M.I.Mun.E., and have had at least three years' experience in the Planning Office of a Public Body or Planning Consultants.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience. Mention the reference No. CDE 163/13/03. Closing date for receipt of initial enquiries: 24th April, 1954. 1916

CORPORATION OF DUNDEE.

Applications are invited for the following appointments in the City Architect's Department :—

(*a*) TWO ASSISTANT ARCHITECTS, A.P.T., Grades VI-VIII. Salary: £705 to £870 per annum.

(*b*) ONE ASSISTANT ARCHITECT, A.P.T., Grades II-V. Salary: £520 to £680 per annum.

Applicants should be Members of the Royal Institute of British Architects, and placings in the various grades will be made according to qualifications and experience.

Appointments will be subject to the provisions of the Local Government Superannuation (Scotland) Act, 1937, and successful applicants will require to pass a medical examination.

Applications, stating the particular appointment for which they are applying, and giving age, qualifications and experience, along with the names of three referees, should be submitted to the undernoted not later than Friday, 26th March, 1954.

ROBERT LYLE,
Town Clerk.

City Chambers, Dundee.
2nd March, 1954. 1918

CORPORATION OF LONDON.

Applications are invited from Chartered Architects, between 30 and 45 years of age, for the appointment of ARCHITECTURAL ASSISTANT (Auxiliary Staff), in the Surveyor's Department, in connection with design and construction of large war damaged buildings and supervision of contracts.

Applicants must have good practical experience in preparation of surveys, working drawings, ½-inch and full-scale details, and sound knowledge of conducting contracts and control of staff.

Salary offered is within the range £845 by £25 to £1,010 per annum (including cost-of-living addition); commencing salary according to qualifications and experience.

The appointment is subject to medical examination and contribution to the Corporation's Superannuation Fund.

Applications, giving full personal details, particulars of qualifications, age, past and present appointments, and the names of two referees, must be sent to the City Surveyor, 55/61, Moorgate, London, E.C.2, not later than Wednesday, 24th March. 1921

DEVON COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointments on the permanent staff. Conditions of service and salaries are in accordance with the National Joint Council Scale for Local Authorities :—

ASSISTANT ARCHITECT, Grade A.P.T., VIII (£785-£860 per annum).

ASSISTANT ARCHITECTS, Grade A.P.T., VI (£695-£760 per annum).

ASSISTANT ARCHITECT, Grade A.P.T., V (£620-£670 per annum).

Application forms, with full particulars of qualifications and experience required for these posts, are obtainable from the County Architect, 97, Heavitree Road, Exeter, and must be returned to him by 20th March, 1954.

Canvassing, directly or indirectly, will disqualify.

H. G. GODSALL,
Clerk of the County Council.

The Castle, Exeter.
24th February, 1954. 1890

COUNTY COUNCIL OF DURHAM.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following permanent appointments in the County Planning Department for the preparation of 1/2,500 scale sketch layouts, 1/500th working drawings and unit centre designs in connection with the development of a balanced neighbourhood unit of about 12,000 people in the Felling Urban District, and similar work in other parts of the county.

ONE ARCHITECT-PLANNER. Grade VIII, A.P.T. (£760-£835).

ONE ARCHITECTURAL ASSISTANT. Grade Va, A.P.T. (£625-£685).

ONE LANDSCAPE ARCHITECT. Grade III, A.P.T. (£525-£570).

ONE JUNIOR ARCHITECTURAL ASSISTANT. Grade II, A.P.T. (£495-£540).

Note.—The above salary scales will be increased by £25 as from 1st April, 1954.

Further details of necessary qualifications and experience, together with forms of application (returnable by 24th March, 1954), obtainable from the County Planning Officer, 10, Church Street, Durham.

J. K. HOPE,
Clerk of the County Council.

Shire Hall, Durham.
5th March, 1954. 1937

BASILDON DEVELOPMENT CORPORATION.
CHIEF ARCHITECT'S DEPARTMENT.
APPOINTMENT OF ARCHITECT (GRADE III).

Applications are invited for the post of a qualified Architect, Grade III, in the salary range £835-£1,085, on the staff of the Chief Architect/Planner, N. Tweddell, A.R.I.B.A. Commencing salary within the grade will be in accordance with experience and ability. Applicants will be expected to have wide experience in design and supervision of large scale housing contracts, including non-traditional methods of construction. The Architect will be in charge of two or more design groups, and should be experienced in all stages of contract management to completion of final accounts. He may also be called upon to assist with the development of the Town Centre. The appointment is subject to the provisions of the Local Government and other Officers' Superannuation Act, and the successful applicant will be required to pass a medical examination. Under suitable conditions, a house in the new town will be available to the successful candidate. Applications, on form obtainable from the Chief Architect, should reach the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, by 22nd March, 1954. 1896

BOROUGH OF KEIGHLEY.
BOROUGH ARCHITECT'S DEPARTMENT.
APPOINTMENT OF ESTATES SUPERINTENDENT.

Applications are invited for the above appointment. The person appointed will work under the direct control of the Borough Architect, and will be responsible for the maintenance and general supervision of the various Housing Estates within the Borough.

Previous experience in a similar capacity is essential, and membership of the Institute of Housing, or similar qualification, will be an advantage. The salary offered is within the Grade A.P.T., IV, salary scale £580-£625.

Forms of application, together with list of duties attached to the appointment, may be obtained from the undersigned, to whom the applications must be returned, accompanied by copies only of two recent testimonials, not later than first post, Monday, 22nd March, 1954.

E. G. FELGATE, A.R.I.B.A.,
Borough Architect.

Borough Architect's Department,
College Street, Keighley. 1888

CITY OF BIRMINGHAM.
CITY ARCHITECT'S DEPARTMENT.
APPOINTMENT OF SENIOR ARCHITECT (EDUCATION).

Applications are invited from suitably qualified Architects for the above appointment, at a salary of £1,500 per annum, rising by annual increments of £50 to a maximum of £1,750 per annum.

The successful candidate will be required to take control of the large Education Section of the City Architect's Department, and extensive knowledge is required of the planning, design and erection of all types of school buildings in both traditional and non-traditional construction.

Candidates must also possess wide administrative experience in a similar position, preferably in Local Government Service, and be familiar with the necessary Acts of Parliament governing the provision of Educational Buildings.

The post is permanent, superannuable, subject to a medical examination, and to three months' notice on either side.

Applications, endorsed "Senior Architect (Education)," stating age, present post and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than the 27th March, 1954.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
City Architect.

Civic Centre, Birmingham, 1. 1897

COVENTRY CORPORATION require PLANNING ASSISTANT. A.P.T., VI (£670-£735), plus £26 p.a. (men) or £19 10s. (women), local award in approved circumstances on salaries under £726. Experience in general planning work and A.M.T.P.I. essential. Application forms, etc., from D. E. E. Gibson, Bull Yard, Coventry, returnable by 29th March. 1920

CITY OF LEICESTER.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointment in the Housing Section, Municipal Offices, Charles Street, Leicester.

ASSISTANT ARCHITECT, A.P.T., Grade VI (£695 to £760 p.a.). Applicants must be registered Architects, and preference will be given to those holding a recognised architectural qualification and with housing experience. The appointment will be subject to the National Scheme of Conditions of Service, passing of a medical examination, and to one month's notice on either side.

Applications, stating age, experience and qualifications, past and present appointments, with present salary, together with copies of two recent testimonials, should be sent to the undersigned not later than Tuesday, 23rd March, 1954.

J. H. LLOYD OWEN, B.Arch., A.R.I.B.A.,
City Architect.

10, Loseby Lane, Leicester. 1939

BIRMINGHAM REGIONAL HOSPITAL BOARD require ASSISTANT QUANTITY SURVEYOR (£600×£25 (7)×£30 (3) to £865 p.a.) for Architect's Department. Applicants should have Final R.I.C.S., and be fully experienced in taking off and preparing bills of quantities and settling final accounts. Superannuable appointment. Write, naming three referees, to Secretary, 10, Augustus Road, Birmingham, 15, by 22nd March, 1954. 1919

CHESTERTON RURAL DISTRICT COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for an ARCHITECTURAL ASSISTANT, Grade A.P.T., II (£520—£565 p.a. after 1st April, 1954). Housing accommodation considered, if required.

Applications, stating age, present position, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent to the undersigned, not later than Saturday, the 20th March, 1954.

W. H. HAYWARD,
Clerk of the Council.

County Hall, Hobson Street, Cambridge. 1898

CITY OF MANCHESTER HOUSING COMMITTEE. Applications are invited for the position of CHIEF ASSISTANT ARCHITECT in the Housing Department. Applicants must be Members of the R.I.B.A. The post is graded in the J.N.C. Scale "B" (£1,000 to £1,150 per annum). Application forms, containing conditions, duties and terms, may be had from the Town Clerk, Town Hall, Manchester, 2. The applications are returnable by the 7th April, 1954. 1938

HER MAJESTY'S COLONIAL SERVICE.
ARCHITECT, PUBLIC WORKS DEPARTMENT, HONG KONG.

Duties include the preparation of designs, sketch plans and working drawings for the new City Hall, and any other duties directed by the Director of Public Works.

Appointment on contract for three years in first instance in salary range £737 10s. to £1,406 5s. per annum, plus expatriation allowance of £210-£280 per annum. Point of entry determined by war service and experience. Gratuity of £150 to £200 p.a., payable on satisfactory completion of contract. Substantial cost-of-living allowance also payable.

Free passages provided for the officer, his wife and children up to 3 in number. Leave is granted at the rate of one day for each seven days' resident service. Government quarters, if available, are provided at low rents.

Candidates, between the ages of 28 and 35, must be A.R.I.B.A., preferably possessing a University Degree in Architecture, with at least 5 years' experience in architectural design and construction.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience. Mention the reference number CDE.112/51/06. Closing date for receipt of initial enquiry: 3rd April, 1954. 1909

HAMPSHIRE

Applications are invited for the appointment of a TECHNICAL ASSISTANT in the County Planning Department, on Grade III of the National Scales (£550-£595), to work in the Headquarters Office at Winchester. Candidates should have passed the Intermediate Examination of the Town Planning Institute or of a related professional body, and have had experience in the Planning Department of a Local Planning Authority. The appointment is pensionable, and will be subject to a satisfactory medical report.

In approved cases the County Council are prepared to assist newly appointed staff to meet removal and other expenses.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names and addresses of two referees, should reach the County Planning Officer, Litton Lodge, Clifton Road, Winchester, by the 19th March. 1908

NORTH RIDING EDUCATION COMMITTEE. Vacancy for ASSISTANT ARCHITECT, Grade A.P.T., V. Salary: £620, rising by annual increments to £670. Candidates must be Associate Members of the R.I.B.A. Previous experience may be taken into account in fixing the commencing salary. Local Government Superannuation Act; send stamped envelope for form and particulars. Closing date for applications: 20th March, 1954. Canvassing disqualifies. F. Barraclough, County Hall, Northallerton. 1887

BOROUGH OF RICHMOND (SURREY).
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment on the established staff of the Borough Engineer and Surveyor from persons having experience in building work, particularly the maintenance of dwellings and public buildings, the preparation of estimates and reports.

The salary is on Grade A.P.T., III, of the National Scale of Salaries (£550×£15—£595 per annum as from the 1st April, 1954), plus the appropriate London area weighting.

The appointment is subject to the provisions of the National Scheme of Conditions of Service and the Local Government Superannuation Acts. The successful candidate will be required to pass a medical examination.

Applications, stating age, education and training, qualifications, experience, with particulars of present and previous appointments, together with names and addresses of two persons to whom reference as to suitability for the appointment may be made, should be delivered to the undersigned not later than 22nd March, 1954.

Canvassing will disqualify. Candidates shall, when making application, disclose in writing whether to their knowledge they are related to any member of the Council or any senior officer.

The Council is unable to assist in the provision of housing accommodation.

CLIFFORD HEYWORTH,
Town Clerk.

Town Hall, Richmond, Surrey. 1929

COUNTY BOROUGH OF WOLVERHAMPTON.
PLANNING STAFF.

Required JUNIOR PLANNING ASSISTANT, Grade A.P.T., I (£490-£535 p.a.), in the Department of the Borough Engineer and Planning Officer.

Candidates should be good draughtsmen, with experience in a Town Planning office, or in the office of an Engineer, Architect or Surveyor.

N.J.C. Service conditions. Medical examination. Superannuable post.

Applications, with two testimonials or names for reference, to Borough Engineer and Planning Officer, Town Hall, Wolverhampton, by Monday, 22nd March, 1954.

A. G. DAWTRY,
Town Clerk.

Town Hall, Wolverhampton. 1928

NORTHERN IRELAND HOUSING TRUST.
ARCHITECTURAL ASSISTANTS.

The Trust has vacancies for Architectural Assistants on the salary scale of £575×£25—£625.

Candidates must have passed the Intermediate Examination of the Royal Institution of British Architects.

The persons appointed will be required to participate in a contributory Superannuation Scheme, allowing for the reciprocal transfer of benefits in Local Government Schemes in suitable cases.

Assistance in obtaining housing accommodation may be given to the successful candidates.

Preference will be given to ex-Service candidates.

Apply, as soon as possible, giving full details of age, education, qualifications and experience, including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12, Hope Street, Belfast. 1906

COUNTY BOROUGH OF SOUTHAMPTON.

Appointment of ASSISTANT PLANNING OFFICER, Grade VI (£695-£760 p.a.). Applicants should be A.M.T.P.I., additional qualification in architecture will be an advantage. Also JUNIOR PLANNING ASSISTANT, General Division (£170-£470 p.a.). Application forms from Borough Architect, Civic Centre, Southampton, to be returned by 27th March, 1954. 1935

NORTHAMPTON BOROUGH ARCHITECT'S DEPARTMENT.

(1) SENIOR ASSISTANT ARCHITECT (HOUSING). Grade A.P.T., VIII (£760-£835).

(2) ASSISTANT ARCHITECT (HOUSING). Grade A.P.T., V (£595-£645).

Particulars of the above appointments and forms of application to be returned by 22nd March, 1954, may be obtained from the Borough Architect, Guildhall, Northampton.

C. E. VIVIAN ROWE,
Town Clerk.

1936

HEREFORDSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.
AREA OFFICER, A.P.T., VI.

Applications are invited not later than 26th March, 1954, for the above appointment. Essential qualification: A.M.T.P.I. and/or A.M.I.Mun.E.; A.R.I.C.S.; A.R.I.B.A. Full particulars may be obtained from the County Planning Officer, Chandos House, St. Owen Street, Hereford. 1930

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she is, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

ARCHITECTURAL ASSISTANT (preferably qualified) required in West Riding area. Some office experience preferred. Full particulars and salary required to Box 1861.

ARCHITECTURAL ASSISTANTS required for busy practice engaged upon schools, industrial buildings, offices, etc. Write, giving full particulars of qualifications, experience and salary required, to Johns & Slater, F./A.R.I.B.A., 32, Foundation Street, Ipswich. 1536

A SENIOR ARCHITECTURAL ASSISTANT required, full experience in preparation of Working Drawings, Details, and supervision of office and Industrial Buildings in the London Area. Good knowledge of construction and design essential. Apply in writing giving full particulars of qualifications, age, experience and salary required to Box 9829.

ARCHITECTURAL JUNIOR ASSISTANT required immediately. Must be good draughtsman and have sound knowledge of construction. Salary according to experience. Jackson & Jackson, Chartered Architects, 13, North Street, Ashford, Kent. 1833

ASSISTANT required immediately, with experience in Flats, Business Premises, etc. Prospects for suitable applicant of Intermediate to Final R.I.B.A. standard; busy office. South London area. Box 1815.

ARCHITECTURAL ASSISTANT, of R.I.B.A. Intermediate standard, required for Architects Dept. of Contractors and Estate Developers in the outer London South-Eastern area, engaged on private estate development, shops, and light industrial premises. Car driver an advantage, but not essential. Reply, stating age, experience, and salary required, to Box 1872.

ARCHITECTURAL ASSISTANT or DRAUGHTSMAN, male or female, urgently required for busy Architects' office in country town near Worcester (Gloucestershire border). Reply, giving particulars of age, experience and salary required. Box 1867.

YOUNG office-trained ASSISTANT required for Norfolk office. Car driver; competent surveyor; draughtsman and detailer. Knowledge of final accounts a distinct advantage. Apply, with details of experience and salary required, to Box 1788.

ARCHITECTURAL ASSISTANT required. General practice. Quick and accurate draughtsman. Age, experience, and salary required, to A. W. J. Mullins, L.R.I.B.A., 78, Thoro'fare, Woodbridge, Suffolk. 1861

ARCHITECT'S SENIOR ASSISTANT required urgently with small busy private practice in Romford or Chelmsford. Engaged on licensed premises, factories, housing, etc. Previous office experience and good draughtsmanship essential. Reply stating salary and details of previous appointments and when available, to J. W. Hammond, Architects, 20, North Street, Romford, Essex. 1884

ARCHITECTURAL ASSISTANT, up to Intermediate standard, some experience of heavy industrial work required. Westminster area. Write, stating experience and salary, to Box 1942.

QUALIFIED ASSISTANT wanted in small busy office, with experience of exhibition as well as architectural design and construction. Apply in writing to S. P. Jordan, A.R.I.B.A., M.S.I.A., Dip.T.P., 11, King's Road, Sloane Square, S.W.3. 1941

SENIOR ARCHITECTURAL ASSISTANT required in Belfast office engaged on schools, hospitals and banks. Minimum salary £750, plus bonus, according to experience. Applicants to give experience, qualifications, and salary expected. Box 1940.

ARCHITECTURAL DRAUGHTSMAN required by large organisation near London. Neat, rapid and accurate draughtsmanship with sound knowledge of building construction necessary. Able to work on projects of all descriptions. Salary up to £520 p.a. Write Box 7463, c/o Charles Barker & Sons, Ltd., 31, Budge Row, London, E.C.4. 1910

NEW ZEALAND ARCHITECTURAL PRACTICE, mainly in commercial and industrial work, requires SENIOR ASSISTANTS, preferably qualified A.R.I.B.A., with some experience since exams., either single or married, although accommodation easier for a single man. Good opportunity enterprising and capable man considering emigration. Commencing salary £750/£900 according capabilities. 2 years assured engagement and passage money assistance for right man, subject certain conditions. Apply airmail, with snapshot and personal and experience details, plus small working drawing own work, to Mitchell & Mitchell and Partners, P.O. Box 187, Wellington C.1, New Zealand. 1905

SENIOR ASSISTANT able to take charge of West End Architect's office, with predominantly industrial experience. Details of this experience, with age, qualifications and salary required to Box 1913.

ARCHITECTURAL ASSISTANT required immediately for busy practice on South Coast. Apply in writing, with full details of experience, age, etc., to Box 1816.

ARCHITECTURAL ASSISTANT required for general practice. Office experience essential. Apply stating experience and salary required, to Edwin H. Earp & Badger, L./A.R.I.B.A., Scholars Lane, Stratford-on-Avon. 1891

ARCHITECTURAL ASSISTANT required in Westminster office of Consulting Engineers for work in connection with designs of Power Stations, Industrial Buildings, Administrative Office Blocks, etc. Apply stating age, experience and qualifications. Box 1904.

ARCHITECTURAL ASSISTANT with own car required by Architects with considerable hospital, ecclesiastical and general practice in North Wales and north-west England. Initiative and willingness to accept responsibility primary considerations. Starting salary £450 to £550 per annum, according to experience and ability. Car allowance. Apply immediately with particulars, to Box 1903.

ARCHITECTURAL ASSISTANT required in the Property Department of Brewery Company. Sound all round training essential. Capable of surveys, working drawings, specifications and supervision. Able to drive car. Apply in writing to the Chief Architect, Vaux & Associated Breweries Ltd., Castle Street, Sunderland, giving details of age, experience and salary required. 1902

ARCHITECTURAL DRAUGHTSMEN and ASSISTANTS required immediately by London Architect. Industrial experience essential. Reply, stating age, qualifications, experience and salary required to Box 1900.

THE LONDON HOSPITAL, Whitechapel, E.1, requires JUNIOR ARCHITECTURAL ASSISTANT. Salary: £440 to £625 p.a., plus London weighting. Post superannuable. Applications, stating age, present salary, and brief particulars of experience, to be sent to the Surveyor. 1931

JOHN H. D. MADIN, Dip.Arch.(Birm.), A.R.I.B.A., requires one SENIOR, one JUNIOR ASSISTANT, for interesting contemporary work in his office at 83-85, Hagley Road, Birmingham, 15. 1933

ARCHITECTURAL ASSISTANT required, Central London office, engaged on housing, offices, churches, etc. Salary: £400-£450 per annum. All applications will be answered. Write, giving brief details of qualifications, experience, etc., to Box 1926.

ARCHITECTURAL ASSISTANT, Intermediate or Final standard, required for busy West End office. Experience of Industrial premises and Office buildings desirable. Box 1934.

ASSISTANT required for firm of contemporary Architects, the following qualifications being essential:—
(a) Should have reached Intermediate standard.
(b) Excellent drafting ability.
(c) Several years' office experience.
(d) Sound knowledge of construction.
(e) Keen interest in modern architecture.
Boissevain & Osmond, Portland Place, W.1. LAN. 7406. 1925

ARCHITECTURAL ASSISTANTS required. Applicants should have completed their National Service and have had at least 2 years' office experience. Apply in writing, stating age, training and experience, to the Chief Staff Architect, Ilford, Ltd., Romford, Essex. 1923

Architectural Appointments Wanted

SENIOR ASSISTANT, A.R.I.B.A. (aged 30), with experience in office administration, staff supervision and design, including work on schools, hospitals, industrial and domestic buildings, requires responsible position with private or industrial firm in London area or East Coast. Salary by arrangement. Box 853.

SENIOR ASSISTANT (37), 19 years' experience in housing, flats, industrial and conversion work, seeks position, London area or South-East England. Box 851.

SENIOR ASSISTANT (age 36), school trained, neat, accurate, and essentially quick draughtsman. 16 years' comprehensive experience all branches of the profession. Surveys, levelling, site supervision, specifications, ½ in. W.D., ¼ in. scales, F.S., perspectives, models, etc. Flats, housing, estate layout, cinemas, breweries, schools, hospitals; industrial, commercial and multi-storey buildings; conversions; rough sketch to contract drawings. Desires appointment with first-class firm or company, London area, not E.C. Excellent testimonials. Salary: 17 gns. per week. Box 856.

SENIOR ASSISTANT, Final standard, part school-trained, 6 years' varied experience most types of building, surveys, specifications, seeks position of responsibility with future prospects. Interested in contemporary design and structural engineering. Box 1878.

ARCHITECTURAL ASSISTANT, 12 years office experience, Brixton School of Building and Poly. evening classes. High standard accurate draughtsman. Working drawings, details, surveys, negotiations with all consultants, etc. Keen and willing to take responsibility, requires post in well established firm, not necessarily a firm of Architects, anywhere in London, but preferably S.W. Salary required: £12 per week. All replies answered. Please reply to Box 859.

SENIOR R.I.B.A. member with wide experience at home and overseas, seeking responsible position with established London firm. Partnership or prospect, welcomed as alternative. Capital available. Box 1893.

SENIOR and JUNIOR ASSISTANT urgently required for busy West End office. Good prospects for the right applicant. State previous experience and salary desired. Box 1912.

CHIEF ARCHITECTURAL ASSISTANT, A.R.I.B.A. (38), seeks responsible position with view to partnership. 20 years' experience industrial and housing. Present post in charge D.O. and Office Administration. Box 1943.

ASSOCIATE (40), wide experience, including 2 years tropical work, capable taking charge of practice, desires responsible appointment in East Africa, preferably Kenya. Box 1932.

BENHAM

Service to Architects

COOKING APPARATUS MAKERS
(all fuels)
KITCHEN PLANNING
COMPLETE INSTALLATIONS

Benham and Sons Limited
66 Wigmore Street, London, W.1 WELbeck 9253 (17 lines)

W & M NEGUS LTD

Building Contractors

Station Works, King James St., Southwark, S.E.1

Telephone:— Waterloo 5474 (3 lines)

Other Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

VACANCY arises for Articled Pupil (Architectural or Building Surveying) in City Firm. Box 1720.

APPOINTMENT OF WORKS DEPARTMENT MANAGER.

THE COMMITTEE of the Derby Co-operative Provident Society Ltd. have decided to re-advertise this vacancy.

Applications are invited from suitably qualified and experienced persons for the above position. The Department at present comprises the following trades: Building; Joinery; Plumbing; Painting; Sheet Metal; Wheelwrights; Blacksmiths; Coachpainting; Funeral Service and Monumental; the total staff numbering 305. All classes of repair and maintenance work, also new buildings, undertaken for the Society and members. Total membership 100,000. Superannuation Fund.

Applications, stating age, qualifications, present position, full details of experience, and salary required, to be forwarded to the Secretary, Derby Co-operative Provident Society Ltd., Albion Street, Derby, to be received not later than March 16th 1911

ASSISTANT QUANTITY SURVEYOR required for Railway Civil Engineer's Office in London. Rate of pay £757 10s. to £798. Applicants should be able to take off and prepare Bills of Quantities, specifications and estimates, measure and adjust final account for architectural work. Preference given to applicants holding A.R.I.C.S. Five-day week; Canteen facilities and concessionary railway travelling after qualifying period of service. Permanency and pensionable position to suitable applicant. Apply in writing giving full particulars as to age, experience and qualifications possessed to Civil Engineer, British Railways, King's Cross Station, London, N.1. 1914

APPLICATIONS are invited for the appointment of CLERK OF WORKS. Salary: According to experience. Contract period: Approximately 2 years, commencing June, 1954. Job involves supervising in Lake District the construction of several buildings, including large office block, to a total value of approx. £200,000. Applications together with either copies of two recent testimonials or the names and addresses of two referees must be submitted not later than Monday, 15th March, 1954. Box 1892.

B.B.C. requires (*a*) CLERK OF WORKS; (*b*) Three CLERKS OF WORKS (lower grade). Duties of (*a*) supervision of building work for studio and office centre in Birmingham; appointment for about one year. Duties of (*b*) supervision of construction at medium power transmitting stations at Aberdeen, Belfast and Plymouth respectively; appointments for about 18 months. For all above posts first class experience of building work essential. Salary: (*a*) £645; (*b*) £545 (higher if qualifications and experience exceptional). Apply: E.E.O., B.B.C., London, W.1, quoting ref. E.887. 1894

ASSISTANT to Managing Director wanted in Company specialising in the marketing of a Patent Spraying Process within the Building Industry, first class knowledge of the trade and administrative ability essential and must be prepared to travel. Write fully giving details of experience, age and salary required to Box 1915.

Services Offered

4 lines or under, 7s. 6d.; each additional line, 2s.

EXPERIENCED LONDON ARCHITECT with own office able to give assistance to Architects, etc. Gladstone 7355. Box 1640.

ARCHITECTURAL MODEL MAKERS.—Speed and service. 22, Holland Road, W.14. Western 9908. 1781

SURVEY of Sites and Buildings, Detailed Drawings, Quantities, Variations Measured, Final Accounts, Specifications and Reports. Qualified Surveyor. LIV. 1839. 1352

QUALIFIED, experienced, R.C. engineer offers services in concrete design and detailing, site measuring and preparation of plans and sections, and estimate drawings. Please write to Box 1870.

WORKING DRAWINGS and Details prepared from your Sketch Designs. Tracing and other draughting work. Specifications typed. Rapid service with moderate charges. Box 1895

LADY TRACER (free lance), 10 years' experience in arch., elect. and mech. eng. Reasonable charges. Speed, accuracy, and neatness assured. Box 1944.

For Sale or Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

RECONDITIONED EX-ARMY HUTS, and manufactured buildings. Timber, Asbestos, Nissen type, Hall type, etc. All sizes and prices. Write, call, or telephone, Universal Supplies (Belvedere), Ltd., Dept. 25, Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 6803

NEW 5/3½ "Ward" Portable Petrol Driven Concrete Mixers for sale. Full details from Thos. W. Ward, Ltd., Albion Works, Sheffield. 1789

PHOTO COPIER, Mason's Antiquarian, complete with choke. Nearest offer to £30. Box 1900.

SEVERAL items of contemporary furniture for sale. Mostly in teak. Handmade and fitted but requires assembling and finishing. Ideal for young architects or practical newly-weds. Box 1899.

GRANADA THEATRES require a D/E size metal horizontal Plan Filing Cabinet, 6 or 8 drawers. Offers to Architect, 36, Golden Square, W.1. 1927

ANCIENT Tithe Barn in Kent for sale for demolition. Tons of old oak. Reply to Box 1924.

Miscellaneous

4 lines or under, 7s. 6d.; each additional line, 2s

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works 96/107, St. Paul's Road, N.1. Canonbury 2061

FOR FULLY GALVANISED Chain Link always specify MASTERFOIL, made to B.S.S. 1722. Fencing & Gates, Ltd., 14, Stanhope Gate, London, W.1. Tel. Grosvenor 4527. 9926

Educational Announcements

4 lines or under, 7s. 6d.; each additional line, 2s

R.I.B.A. AND T.P.I. EXAMS.—Stuart Stanley (Ex. Tutor Sch. of Arch., Lon. Univ.), and G. A. Crockett, M.A./B.A., F./F.R.I.B.A. M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in assn.), prepare Students by correspondence. 10, Adelaide Street, Strand, W.C.2. TEM. 1603/4.

R.I.C.S., I.Q.S., and I.A.A.S. Postal Courses for all exams. including R.I.C.S. Preliminary and I.Q.S. Special Test conducted by the Ellis School (Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.), 103B, Old Brompton Road, S.W.7. KEN. 4477. Descriptive Booklet on request. 7020

COURSES for all R.I.B.A. EXAMS.
Postal tuition in History, Testimonies, Design, Calculations, Materials, Construction, Structures, Hygiene, Specifications, Professional Practice, etc. Also in general educational subjects.!
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
103B OLD BROMPTON RD., LONDON, S.W.7
Phone: KEN 4477 *and at Worcester*

You are invited to write for an illustrated (free) catalogue of

BOOKS *on architecture, planning, and kindred subjects to The Architectural Press, 9-13 Queen Anne's Gate, London, SW1*

FINEST QUALITY BOX METAL LETTERS BUILT ONLY TO ARCHITECTS SPECIFIC REQUIREMENTS AND DRAWINGS
SIGN SERVICE 9 HIGH STREET, ERDINGTON, BIRMINGHAM 23.
Phone: ERDington 5234 (2 lines)

ROYAL BOARD
The Outstanding All Wood Fibre Hardboard
Made in Sweden

MODELS ESTAB. 1883.
John B. THORP
FOR TOWN PLANNING, PUBLIC BUILDINGS, ESTATES and INTERIORS
BY 98 GRAY'S INN ROAD, W.C.
TELEPHONE: HOLBORN 1011

ARCHITECTURAL & CONTEMPORARY
SIGN LETTERS
IN A VARIETY OF METALS AND FINISHES
SEND FOR BOOKLET
WARD & CO.
4 GLOUCESTER STREET BRISTOL 2
Telephone: 21536

SPECIFY **ELLISON** ELECTRIC for HIGH VOLTAGE SWITCHBOARDS, MEDIUM VOLTAGE SWITCHBOARDS, SWITCHGEAR, STARTERS
GEORGE ELLISON Limited, Perry Barr, Birmingham, 22B

HEATING
HOT WATER SUPPLIES AND VENTILATION
for
INDUSTRIAL • COMMERCIAL AND PRIVATE BUILDINGS
CHAS. P. KINNELL & CO. LTD
65, 65a SOUTHWARK ST. LONDON, S.E.1.
Phone: WAT 4144

ABSOLUTE NON-COMBUSTIBILITY WITH
DURASTEEL
COMPOSITE STEEL & ASBESTOS ROOFING
CORRUGATED DURASTEEL Steel-cored Asbestos Sheeting conforms to Standard III Building Specification and combines mechanical strength with high fire resistance.
DURABILITY • SAFETY • LOW MAINTENANCE
Send for data to manufacturers:—
Durasteel Ltd., Oldfield Lane, Greenford, Middx
Tel.: WAXlow 1051 (P.B.X.)

Steel furniture, the permanent solution to all large scale seating problems
SEBEL
• STAK-A-BYE
• FOLD-A-BYE
• NEST-A-BYE
Sebel Products Ltd, 177 West Street, Erith, Kent

Alphabetical Index to Advertisers

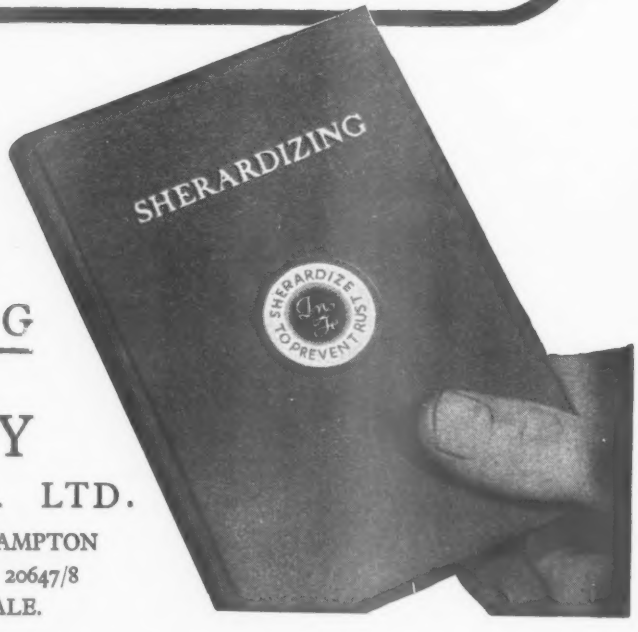
	PAGE
Accordo Blinds, Ltd.	xvi
Adams, Robt. (Victor), Ltd.	lxxxiv
Adshead, Ratcliffe & Co., Ltd.	xxxvi
Allen, W. G. & Sons (Tipton), Ltd.	vi
Anglo-Scottish Construction Co., Ltd.	xiii
Arens Controls, Ltd.	xxix
Associated Fire Alarms, Ltd.	lxxxiii
Associated Metal Works (Glasgow), Ltd.	lxxxvii
Barking Brassware Co., Ltd.	lxxxvii
Batley, Ernest, Ltd.	xciii
Bawn, W. B., & Co.	lxxvii
Benham & Sons, Ltd.	xc
Boulton & Paul, Ltd.	
Brandts, Wm. (Wallply), Ltd.	lxxxvi
Briggs, Wm., & Sons, Ltd.	
British Electrical Development Association	xi, xii
British Electricity Authority	lxxxi
British Insulated Callenders' Cables, Ltd.	xxiii
British Lead Mills, Ltd.	xviii
British National Electrics, Ltd.	xxxii
British Plaster Board, Ltd., The	
Brown, Donald & Co. (Brownall), Ltd.	xciii
Catesbys, Ltd.	lxxx
Celotex, Ltd.	xxxix
Central Drawing Office	lxxxvii
Chloride Batteries, Ltd.	xxviii
Colt Ventilation, Ltd.	lvii
Concrete, Ltd.	lxv
Copperad, Ltd.	lxxi
Crane, Ltd.	
Crittall Mfg. Co., Ltd.	xxv
Cuthell, D. M. & Co., Ltd.	lxxxvi
Denny, Mott & Dickson, Ltd.	xx
Doulton & Co., Ltd.	lxxiv
Downing, G. H. & Co., Ltd.	xxxvii
Dreadnought Fireproof Doors (1930), Ltd.	lxxvi
Dunbrik, Ltd.	lxxxvi
Dunn, Alexander & Co., Ltd.	lxxxv
Durasteel, Ltd.	xci
Eagle Pencil Co., Ltd.	lxxxv
Edison Swan Electric Co., Ltd.	lxxxi
Ellis School of Architecture, The	xci
Ellison, George, Ltd.	xci
English Joinery Manufacturers' Association	lv
Engravers' Guild, Ltd., The	lxxxii

	PAGE
Esavian, Ltd.	lxxii
Evode, Ltd.	vii
Ezee Kitchen Equipment, Ltd.	lxxix
F.E.B. (Gt. Britain), Ltd.	lxix
Fibreglass, Ltd.	xli
Fibrolene, Ltd.	lxxxii
Findlay, Alex., & Co., Ltd.	lxxvii
Finlock Gutters, Ltd.	xlvii
Floor Renovations, Ltd.	lxxxiv
Ford & Walton, Ltd.	lx
Franki Compressed Pile Co., Ltd., The	v
French, Thos. & Sons, Ltd.	xxxv
Frenger Ceilings, Ltd.	x
Gas Council	lxxv
General Electric Co., Ltd.	lxxiii
Glow-Worm Boilers, Ltd.	lviii
Green, J. H. & F. W., Ltd.	lxxxvii
Greenwood's & Airvac Ventilating Co., Ltd.	
Gyproc Products, Ltd.	xxvii
Gypsum Mines, Ltd., The	lxxx
Halden, J., & Co., Ltd.	lxxxvi
Hall, John, & Sons (Bristol & London), Ltd.	lxxv
Harper, John, & Co., Ltd.	xv
Harvey, G. A., & Co. (London), Ltd.	
Hope, Henry, & Sons, Ltd.	lxiv
Kenyon, Wm., & Sons, Ltd.	
King, Geo. W., Ltd.	lxxviii
Kinnell, Chas. P., & Co., Ltd.	xci
Laing, John, & Sons, Ltd.	xciv
Lead Industries Development Council	xxvi
Leaderflush, Ltd.	lvi
Leatherflor, Ltd.	
Leeds Fireclay Co., Ltd.	xxx
Linoleum Mfrs.' Association	lxii
Logan, Sons & Co., Ltd.	xciii
London Brick Co., Ltd.	
Mallinson, Wm., & Sons, Ltd.	lxix
Mander Brothers, Ltd.	xiv
Medway Buildings & Supplies, Ltd.	xliii
Merchant Trading Co., Ltd.	xiv
Metal Sections, Ltd.	lxi
Midland Electric Mfg. Co., Ltd.	lv
Mills Scaffold Co., Ltd.	ii
Negus, W. & M., Ltd.	xc
Newall's Insulation Co., Ltd.	ix
Penfold Fencing & Engineering Co., Ltd.	lxii
Permanite, Ltd.	xxii

	PAGE
Philipson & Son, Ltd.	lxxxvii
Phoenix Timber Co., Ltd., The	lxviii
Pynford, Ltd.	lxxiii
Radiation (Group Sales), Ltd.	xxxi
Rawlplug Co., Ltd., The	lxx
Rentokil, Ltd.	lxxxiv
Richards Tiles, Ltd.	xxxiii
Richardson & Starling, Ltd.	lxxxvii
Robbs Cement Enamel Finishes, Ltd.	xlvi
Robertson Thain, Ltd.	xliv
Sealocrete Products, Ltd.	xlix
Sebel Products, Ltd.	xci
Shannon, Ltd., The	lxxi
Sharp Bros. & Knight, Ltd.	lxxvi
Shell-Mex & B.P., Ltd.	liii
Sign Service	xci
Silexine Paints, Ltd.	lix
Small & Parkes, Ltd.	liv
Smith, Saml., & Sons, Ltd.	lxxix
Smith, Thos., & Son, Ltd.	xxi
Solignum, Ltd.	xciii
Sommerfeld's, Ltd.	lxxviii
Southerns', Ltd.	lxvii
Speedwell Gear Case Co.	xxxviii
Spencer, Lock & Co., Ltd. (Royal Board)	xci
Spirax-Sarco, Ltd.	xlvi
Steel Radiators, Ltd.	lxxxiii
Taylor, Robt., & Co. (Ironfounders), Ltd.	lxxiv
Teddington Industrial Equipment, Ltd.	liii
Teleflex Products, Ltd.	lxxix
Thermacoust, Ltd.	xxiv
Thompson, John (Beacon Windows), Ltd.	ii
Thorn, J., & Sons, Ltd.	xxxviii
Thorp, John B.	xci
Timber Development Association, Ltd.	xix
Timber Fireproofing Co. Ltd., The	xiii
T.M.C. Harwell (Sales), Ltd.	xvii
Troughton & Young (Lighting), Ltd.	xxxiv
True-Flue, Ltd.	xl
United Paint Co., Ltd.	xiii
Val De Travers Asphalte Paving Co., Ltd., The	iii
Wall Paper Mfrs., Ltd., The	lxxxiv
Walpamur Co., Ltd.	i
Ward & Co.	xci
Williams & Williams, Ltd.	xlviii
Wood, Ed., & Co., Ltd.	viii
Zinc Alloy Rust Proofing Co., Ltd.	xcii
Zinc Development Association	lxvi

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous Property, Land and Sales, lxxxviii, lxxxix, xc, xci.

YOURS *for the Asking*



LEARN HOW TO:—
SPECIFY,
TEST,
USE.

SHERARDIZING

ZINC ALLOY
RUST PROOFING CO. LTD.
SHAKESPEARE STREET, WOLVERHAMPTON
TELEPHONE: WOLVERHAMPTON 20647/8
ALSO AT LONDON & ROCHDALE.

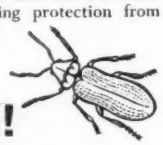
PAGE
lxxxvii
lxviii
lxxiii
xxxi
lxx
lxxxiv
xxxiii
lxxxvii
xlvi
xliv
xlix
xci
lxxi
lxxvi
liii
xci
lix
liv
lxxix
xxi
xciii
lxxviii
lxvii
xxxviii
xci
xlvi
lxxxiii
lxxiv
lii
lxxix
xxiv
li
xxxviii
xci
xix
xlii
xvii
xxxiv
xl
xlii
iii
lxxxiv
l
xci
xlviii
viii
xcii
lxvi

SOLIGNUM is the complete answer to—

ROT

DRY ROT
WET ROT
& DECAY

Solignum destroys the dry rot fungus wherever brought into contact with it, and gives complete immunity against further attack. Solignum Wood Preservatives are made to penetrate into the wood and remain as an active barrier against decay, affording protection from dampness, exposure to weather, dry rot, wet rot, wood borers, and all other enemies of Timber. Solignum is easily applied by brush, by dipping or by spray gun.



AND WOOD BEETLES TOO!

There are 3 kinds of Solignum . . .

Solignum Wood Preserving Stain.
For constructional timber, fences, sheds, joists, flooring, etc., to prevent and destroy dry rot fungus.

V.D.K. Solignum Wood Preservative.
In Green, Brown and colourless, can be painted over if desired. Essential for greenhouses, netting and canvas.

Solignum Wood Beetle Destroyer.
A specially prepared solution to destroy wood boring beetles, i.e. 'Woodworm', in furniture and constructional timber.

Solignum Advisory Service. *Let experts help you in preserving your woodwork and avoid costly repairs and replacements. Write for descriptive leaflets and advice* **FREE.**

SOLIGNUM *wood preserve it!*

SOLIGNUM Ltd., Donington House, Norfolk St., London, W.C.2

Brownall

HIGH JOINT STRENGTH FITTINGS

● IN NON-FERROUS METALS



EASY-CLEAN LABORATORY FITTINGS

In Chrome, Black-Bronze, Polished & Lacquered Brass Finish.

COMPRESSION Fittings for Hospitals and Industrial Building.

For ¼in. to 6in. Tube.

Gunmetal Screwed Fittings to B.S. Table 1 and B.S.P. Threads.

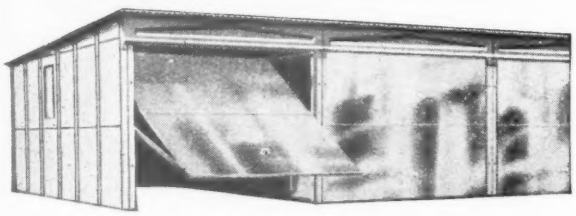
Solder (Capillary) & Welding for all Heating Work.

SEND FOR CATALOGUES DATA AND PRICES ETC.

Also finished in coloured plastic.

DONALD BROWN (Brownall) LTD.
LOWER MOSS LANE MANCHESTER 15
Tel: DEAnsgate 4754/5 Grams: "DONABROW" Manchester.

BATLEY LOCK-UP GARAGES



NOW AVAILABLE WITH

UP AND OVER DOORS

With the present-day high cost of building materials and labour, BATLEY Multiple Concrete Garages offer tremendous economies. Employing the well-known Batley principle of tongued and grooved concrete units which are simply bolted together on a firm, level foundation, these Garages can be erected by unskilled labour in hours instead of days. Fitted with smooth-sliding, space saving Up and Over Doors as an alternative to hinged doors at no extra cost. In addition to the big saving in initial cost, Batley Garages require no maintenance—they last a lifetime without attention. They are completely fireproof, weatherproof, rotproof and vermin-proof. Wherever lock-up Garages are required—for Municipal Housing Estates, Hotels, Flats, Armed Services Camps, etc.—it will pay you to investigate.

FREE DELIVERY IN ENGLAND AND WALES

No. of Garages	Size	Clear Height	Total Cost
2	16ft. 3in. x 16ft. 4in.	6ft. 3in.	£125 - 0 - 0
3	24ft. 3in. x 16ft. 4in.	6ft. 3in.	£180 - 0 - 0
6	48ft. 3in. x 16ft. 4in.	6ft. 3in.	£345 - 0 - 0
9	72ft. 3in. x 16ft. 4in.	6ft. 3in.	£510 - 0 - 0
12	96ft. 3in. x 16ft. 4in.	6ft. 3in.	£675 - 0 - 0

Plus £55 per additional garage to any number required in one block. Also available with a clear height of 7ft. 9in., an alternative length of 19ft. if required.

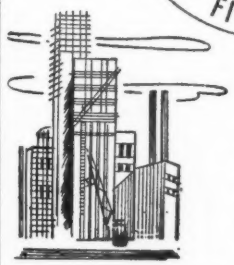
DEFERRED TERMS AVAILABLE.

BATLEY
MULTIPLE CONCRETE GARAGES

send for full details and brochure to—

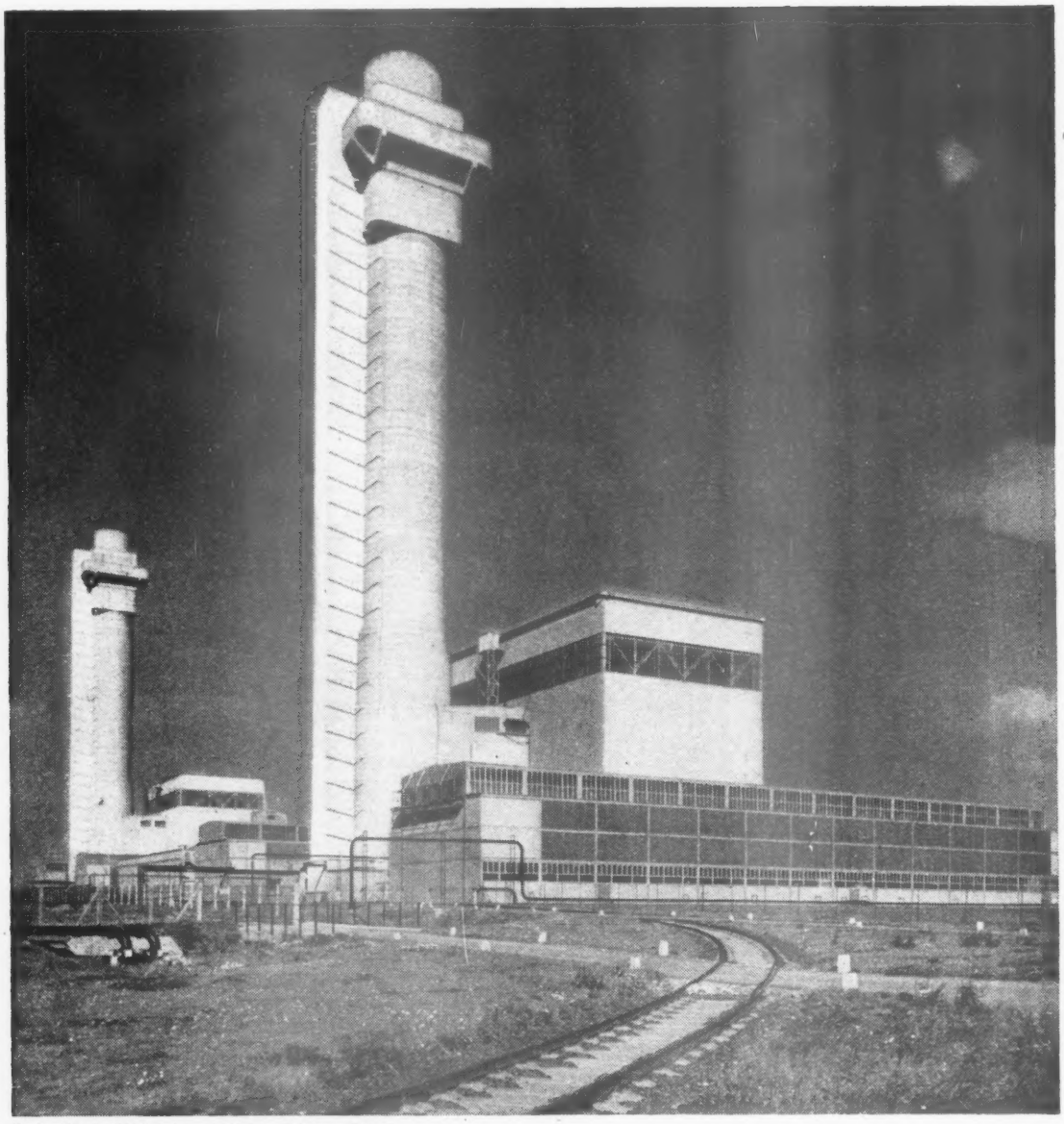
ERNEST BATLEY LTD., 63, Colledge Rd., Holbrooks, Coventry
Phone: 89245 6

FOR INSULATION
METAMICA
AND FIREPROOFING



Particularly suitable for houses, factories, schools, hospitals and public buildings where heat and sound insulations are of vital importance. Write now for descriptive literature giving full details of this unique material

LOGANS
(VERMICULITE) LTD.
140 WEST GEORGE STREET, GLASGOW, C.2.
Telephone DOUGLAS 7233



Designed by the Chief Architect's Division, Ministry of Works

Britain's Plutonium Factory

At Britain's Plutonium Factory at Sellafield in Cumberland, with its two stacks over 400 feet high, two large natural uranium atomic piles are producing fissile material.
Building and civil engineering works by this Company include the two atomic piles, cooling reservoir, blower houses, ancillary buildings, and roads and railways in the pile group.

LAING

JOHN LAING AND SON LIMITED · GREAT BRITAIN, CANADA, UNION OF SOUTH AFRICA, RHODESIA
BUILDING AND CIVIL ENGINEERING CONTRACTORS

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. by HARRISON & SONS LTD., Printers to the late King George VI, London, Hayes (Middx.), and High Wycombe.
Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4

